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CULTURAL RESOURCES AND GEOMORPHOLOGICAL RECONNAISSANCE

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POOLS 1 THROUGH 9
McCLELLAN-KERR ARKANSAS RIVER
NAVIGATION SYSTEM

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BY

W.J. BENNETT, JR. AND LAWSON M. SMITH

ARCHEOLOGICAL ASSESSMENTS REPORT NO. 79

SUBMITTED TO
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Geomorphological Reconnaissance
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McClellan-Kerr
Arkansas River Navigation System
Pools 1 through 9**

by
**W. J. Bennett, Jr.
Phyllis L. Breland
and
Lawson M. Smith**

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Little Rock
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Abstract

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**Cultural Resources
and
Geomorphological Reconnaissance
of the
McClellan-Kerr
Arkansas River Navigation System
Pools 1 through 9**

CHAPTER 1: INTRODUCTION

Project Authorization

As part of its continuing study of management alternatives for the McClellan-Kerr Arkansas River Navigation System (ARNS), the U.S. Army Engineer District, Little Rock (USAED,LR) is seeking to assess present and possible future project impacts on those cultural resources within the ARNS. In order to accomplish this, it is necessary to be able to specify those resources to be affected by various management decisions. Since at the present time no adequate inventory of these resources is available, it has been found necessary to compile one. As part of this effort, an overview study of the nature and distribution of known cultural resources within Pools 1 through 9 was sponsored. This work was undertaken under the authority of the National Historic Preservation Act of 1980 (Public Law 96-515). Work was performed by Archeological Assessments, Inc. (AAI), Nashville, Arkansas, under Contract No. DACW03-86-D-0068, Order No. 13 and the U.S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Mississippi.

Project Goals and Orientation

The principal aim of this effort was to construct a baseline study which would provide USAED,LR with the following information:

- The identification and location of cultural resources presently known to be within the project area.
- The information necessary to structure a program of site assessment for these sites and other sites thought likely to be present in the project area.
- Projections regarding possible site distribution in uninvestigated portions of the project areas.

To this end, a study of known site location and landform analysis was undertaken which tightly integrated geomorphological and archeological investigations into a single program. The specific geomorphic objectives were:

- To delineate the major geomorphic features and processes of the study area;
- To reconstruct, to the extent possible, the geomorphological evolution of the landscape within the study area; and,
- To estimate the possible occurrence and location of buried archeological sites within the study area.

The archeological aims were to document particular aspects of the previously recorded portions of the archeological record in the project area as well as to examine previously uninvestigated locations within the study area. Standard techniques of discovery for those portions of the archeological record which have surface and/or near surface manifestations were to be employed in selected locations to increase the data base for these types of cultural resources.

The theoretical basis, strategies, and techniques used in this program were much like those used in a similar effort conducted in the western Arkansas portion of the ARNS composed of Ozark Lake and Lake Dardanelle (Bennett et al. 1986).

Project Area Location and Description

As originally defined the study area was to consist of both fee and less than fee land within that portion of the McClellan-Kerr Arkansas River Navigation System situated between Russellville, Arkansas, and the confluence of the Arkansas and Mississippi rivers (Pools 1 through 9), approximately 58,000 acres (Figure 1).

Along its course from Russellville to the Mississippi River the Arkansas River flows across an eight county area and through two very different physiographic provinces. In its western reach (for this project, Pools 7, 8, and 9), it forms an alluvial valley of rather restricted width incised into the Pennsylvanian sandstones and shales of the Ouachita Mountains. Below Little Rock (Pools 2 through 6 and Norrell Lock and Dam), the Arkansas River enters the geologically less restrictive Mississippi River Valley.

In order to describe the diverse character of the Arkansas River along this portion of its course, the study area was divided into five geomorphically distinct reaches as determined by field observations and the analysis of various topographic and geological maps. From west to east these five reaches are the Petit Jean Reach, the Maumelle Reach, the Fourche Bayou Reach, the Plum Bayou Reach, and the Bayou Meto Reach (Figure 2).

The Petit Jean Reach flows eastward and extends from Dardanelle to Cadron Ridge approximately five miles west of Conway. This reach includes Pools 9 and 8 and is characterized by a relatively straight Arkansas River with minimal meandering due to the constraining regional geologic structure of an east-west trending ridge and valley topography.

The Maumelle Reach extends from Cadron Ridge to Little Rock where the Arkansas River enters the Mississippi River alluvial valley and includes Pool 7 and approximately one half of Pool 6. In this reach the Arkansas River transects the east-west trending ridges of the Ouachita Mountains and flows in a south-southeast direction. Due to the occurrence of relatively erosion resistant geologic strata the Arkansas River does not have a well-defined floodplain within this reach.

The Fourche Bayou Reach extends from Little Rock to the Brodie Bend Cutoff near river mile 92 a distance of approximately 20 statute miles through the eastern one half of Pool 6 and nearly all of Pool 5. This reach of the Arkansas River develops a much broader floodplain than within either the Petit Jean or Maumelle reaches as it flows out of the Ouachita Mountains into the unconsolidated sediments of the Mississippi River valley. Consequently, the floodplain is well-developed on both sides of the river. An area of concentrated abandoned meander loops on the northeast side of the modern Arkansas River, just south of Little Rock, marks the intersection of six former Arkansas River meander belts upon entering the alluvial valley with the floodplain of the modern Arkansas River.

The Plum Bayou Reach is the shortest of the defined reaches extending from Brodie Bend Cutoff to approximately three miles north of Pine Bluff. This reach begins just upstream from Lock and Dam 5 and includes Pool 4. The Plum Bayou Reach is unique in that the west side of the Arkansas River is buttressed against either a high terrace or Tertiary uplands which limits the Arkansas River floodplain on the west. On the east side of the river the floodplain is quite broad and meanders freely in predominantly lateral accretion deposits from earlier Arkansas and Mississippi river activity.

The Bayou Meto Reach, the lowermost of the five defined reaches, extends from approximately three miles north of Pine Bluff to the mouth of the Arkansas River. It includes Pools 3 and 2 as well as Norrell Lock and Dam and downstream to the confluence of the Arkansas and Mississippi rivers. The relatively unconstrained lateral migration of the Arkansas River through this area has produced a broad floodplain on both sides of the modern channel. Along this reach the modern Arkansas River intersects a number of its former meander belts and three areas of concentrated abandoned channels are apparent. The three such areas are located near river mile 115, 100, and 75 and are distinguished by numerous abandoned channels and lakes in these areas.

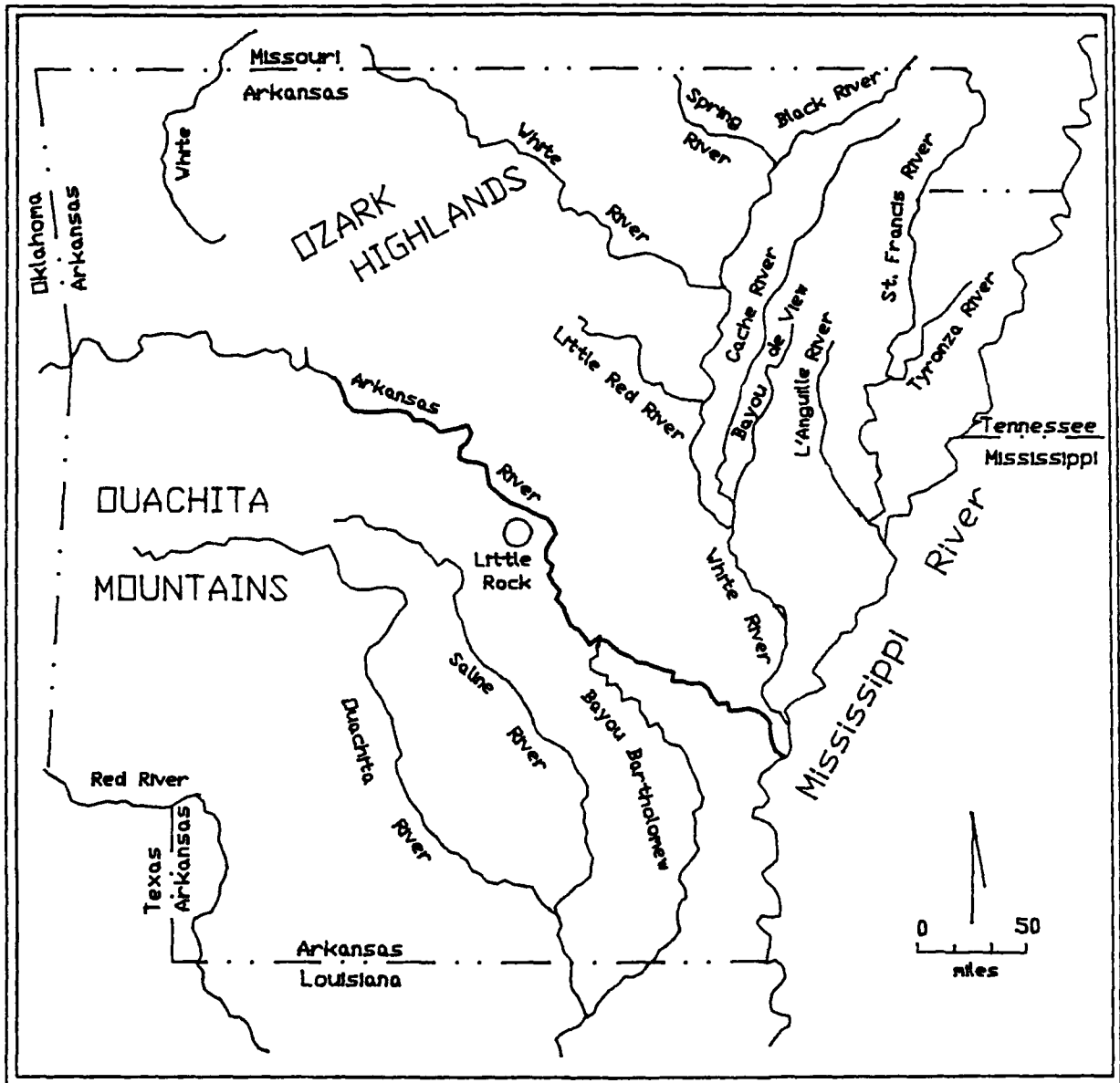


Figure 1. Study Area.

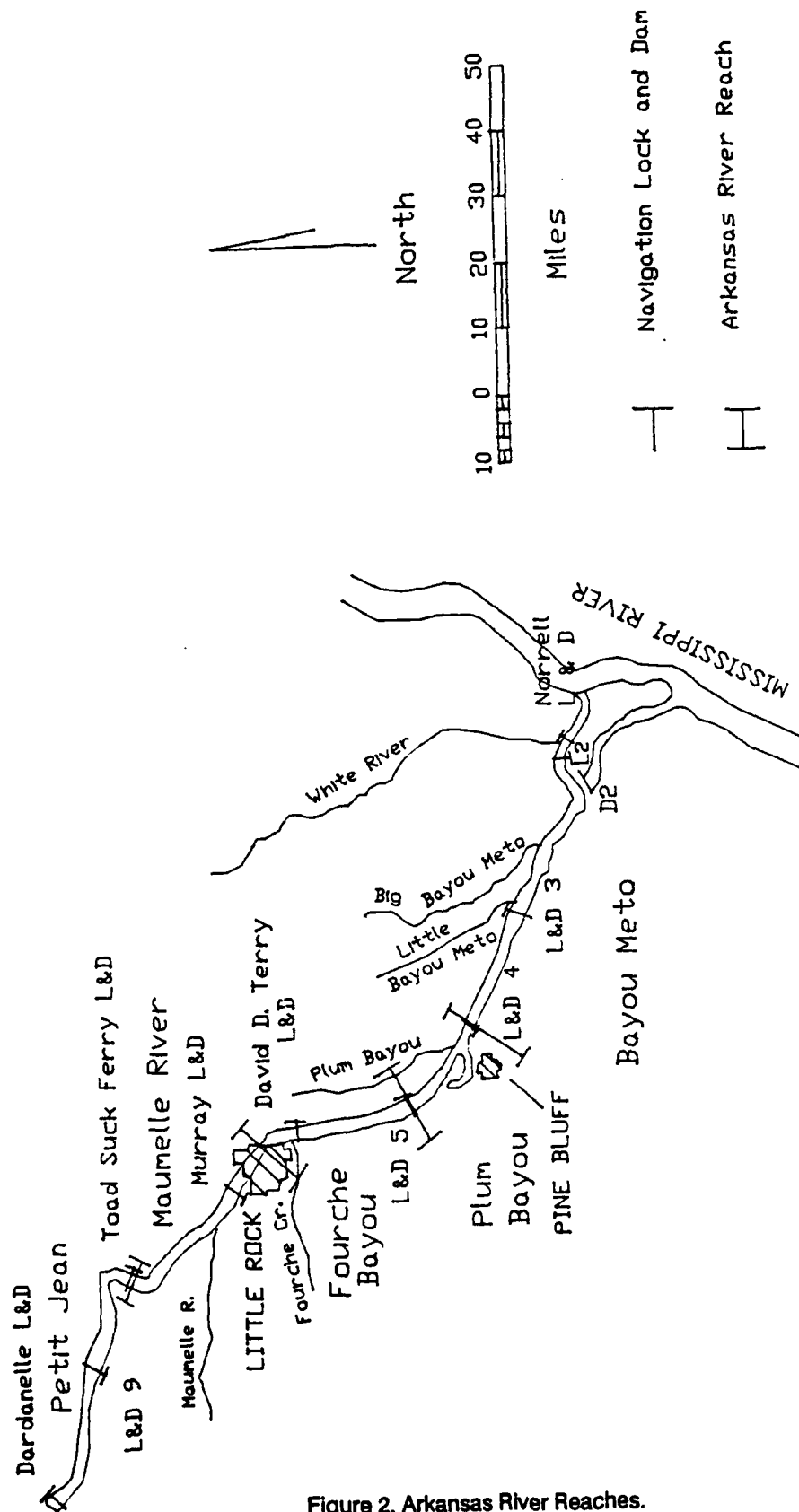


Figure 2. Arkansas River Reaches.

At the time of investigation maps delineating the USAED,LR boundaries which could be easily adapted to this effort were not available. As a result the investigators defined the study area as the area inside the pre-existing levees along the Arkansas River. When no levee is present, the project boundary extends to the contour line located 20 feet above the local normal pool elevation of the Arkansas River and rounded up to the nearest ten feet except in a few cases where this arbitrary 20 feet above normal pool level was not a feasible cut-off due to extensive low elevation over a broad area. In these cases, the study area boundary was delineated by the interpretation of geomorphic features and topographic elevation. As a result of this method of study area delineation the study area is an area somewhat larger than that presently managed by the USAED,LR. Consequently a number of archeological sites discussed in this report may, in fact, lie outside the sphere of responsibility of the USAED,LR.

The study examined the nature and distribution of previously recorded cultural resources within the total study area. In addition, a pedestrian survey was conducted of an estimated 10 percent of the total of the fee and less than fee lands (approximately 5,300 acres) dispersed among several discontinuous parcels. These locations were selected on the basis of geomorphological analysis as areas of high and low site potential. Prior to the initial phase of field work 12 such locations had been identified by Smith and Breland (1989). Subsequent field observations and project restraints reduced this number to 9. These nine locations, called Survey Units, were subjected to intensive pedestrian survey. The numerical designations originally assigned to these parcels (1, 2, 5, 6, 6a, 7, 8, 10, and 12) were retained to facilitate record keeping. Survey Units 1, 2, and 5 are located within the Petit Jean Reach. Survey Units 6, 6a, and 7 are located within the Maumelle Reach. Survey Unit 8 is located within the Fourche Bayou Reach. Survey Unit 10 is located within the Plum Bayou Reach. Survey Unit 12 is located within the Bayou Meto Reach (Figure 3).

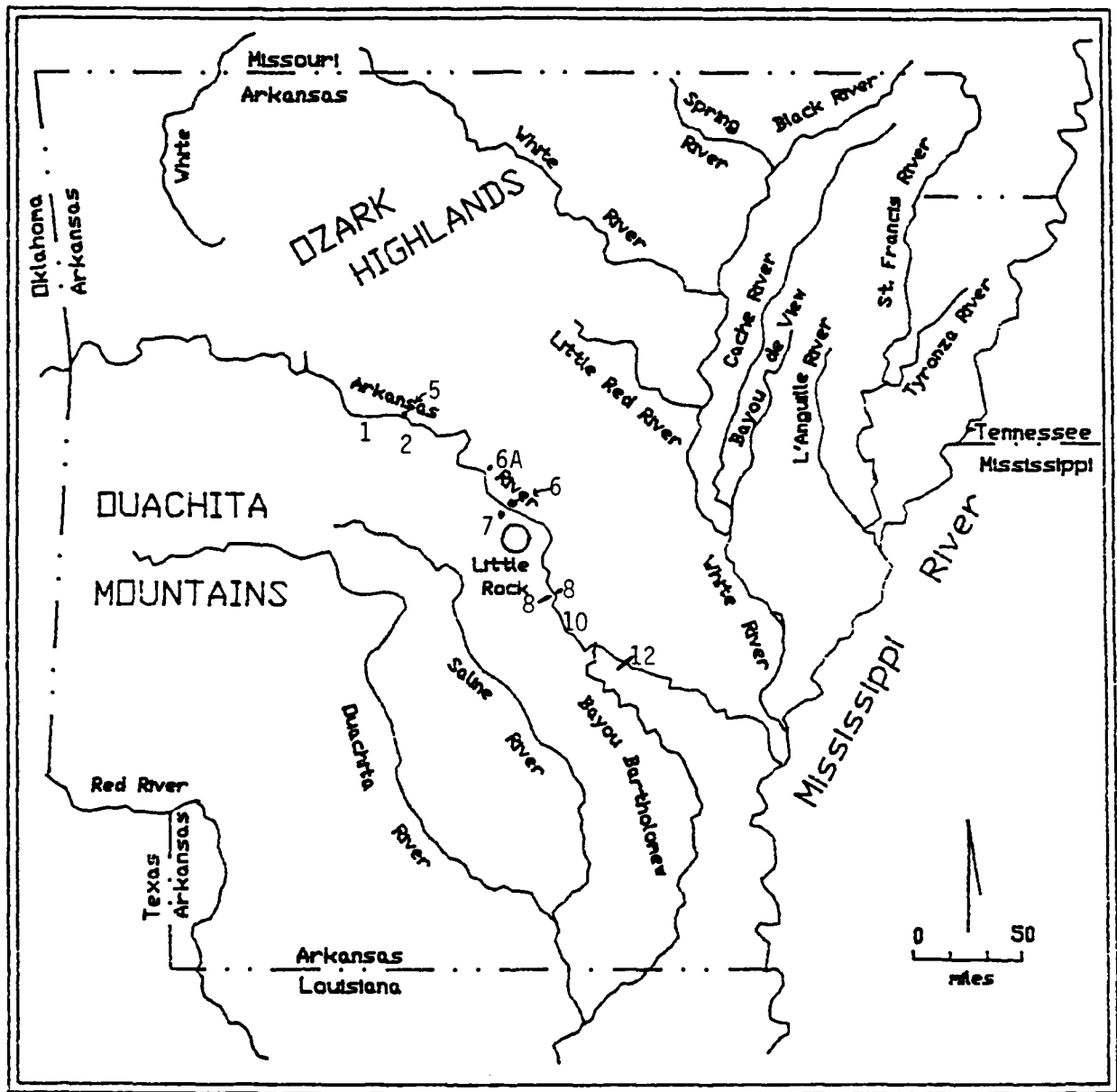


Figure 3. Survey Unit Locations.

CHAPTER 2: SUMMARY OF INVESTIGATIONS

Theoretical Considerations

The theoretical orientation, strategy, and tactics of this effort are similar in most respects to previous efforts by Archeological Assessments, Inc., for the USAED,LR (Bennett 1982; Smith 1982; Bennett, Swanda, and Watkins 1985; Bennett et al. 1986) and other clients (Bennett et al. 1982; Bennett, Gettys, and Smith 1984; Bennett, Smith, and Watkins 1985; Bennett and Saucier 1983; Bennett, Gettys, and Saucier 1986; Saucier and Smith 1986). This integration of geomorphology and archeology has also been successfully achieved by other researchers (Bennett and Bettis 1981; Weinstein and Kelley 1984). Many of the activities undertaken here are similar or identical to those outlined by Butzer (1982: 260-266) under the heading of "landscape survey."

In this effort, the position is taken that the archeological record is composed of those alterations to the landscape made by humans. It would therefore seem appropriate to view the landscape as the fundamental concept in our investigations. The archeological record is a characteristic of the landscape, not the other way around (Bennett 1987: 10-10).

This work is based on the premise that the most basic, most fundamental elements of the landscape are the landforming processes and their resultant products — the geomorphic features. The fauna which typify an environment are dependent upon its flora. The flora is dependent upon the edaphic conditions, and the nature of the soils depends upon the landforms within which they develop.

We believe that it is not only crucial to understand how the landforming processes have been at work to set the parameters within which past human occupants of the project area chose site locations, but also to understand what may have happened to these sites subsequent to their establishment.

Project Participants

It was out of this conviction that the following program of geomorphological and archeological investigations was fashioned. Institutional participants in this effort were USAED,LR, AAI, and WES. The primary participants from WES were Lawson M. Smith, project co-director, and Phyllis Breland. Robert Dunn and John Riggs represented USAED,LR. AAI project participants included W. J. Bennett, Jr., project co-director; John Northcutt, John Northrip, and Robert Abbott, field crew members; Christina Cojeen, laboratory supervisor; Brauna Hartzell, computer specialist (data base management and computer graphics); Jeffrey Blakely, archival research; and James Hoelscher, project soils scientist.

Background Research

A comprehensive search was undertaken to gather information about previously recorded cultural resources. This included an analysis of records held by the Office of the State Archeologist, the Arkansas Historic Preservation Program, and USAED,LR. In addition, a literature review was undertaken to summarize previous archeological and historical investigations and their results in the project area.

Analysis of remotely sensed data relating to the environment of the project area was undertaken by WES. Data used in the geomorphic investigation were collected from topographic and geologic maps, and aerial photography. The maps include forty-one 1:24,000 topographic maps, seven 1:62,500 topographic maps, seven 1:62,500 geologic maps, and a comparative bankline folio of the Arkansas River from Pine Bluff to Fort Smith. The comparative bankline study shows the channel boundaries of the Arkansas River between the years 1825 and 1950. Panchromatic aerial photography taken in 1964 and aerial mosaics from 1958 and 1966 were used to help delineate the geomorphic features in the study area. Interpretation of the aerial photography was the principal tool for mapping the geomorphic features.

The mapping of the study area's geomorphic features began with the identification of all areas reworked by lateral migration during the Historic period (19th and 20th centuries). For those portions of the study area between Pine

Bluff and Dardanelle, the extent of historic lateral migration was delineated using a comparative bankline study for the area between Pine Bluff and Fort Smith for the years 1825-1950. Topographic maps (1:62,500) and aerial photography augmented by field data were used to define areas of historic lateral migration which occur between Pine Bluff and the mouth of the Arkansas River. After the elimination of areas of historic accretion the remaining project area was further characterized by identifying specific fluvial geomorphic features. These features were then mapped on forty-one 1:24,000 topographic quadrangles (Figure 4). Coupled with Smith (1986a; 1986b) this provides a reconnaissance level geomorphic description for the ARNS from Fort Smith to the mouth of the Arkansas River.

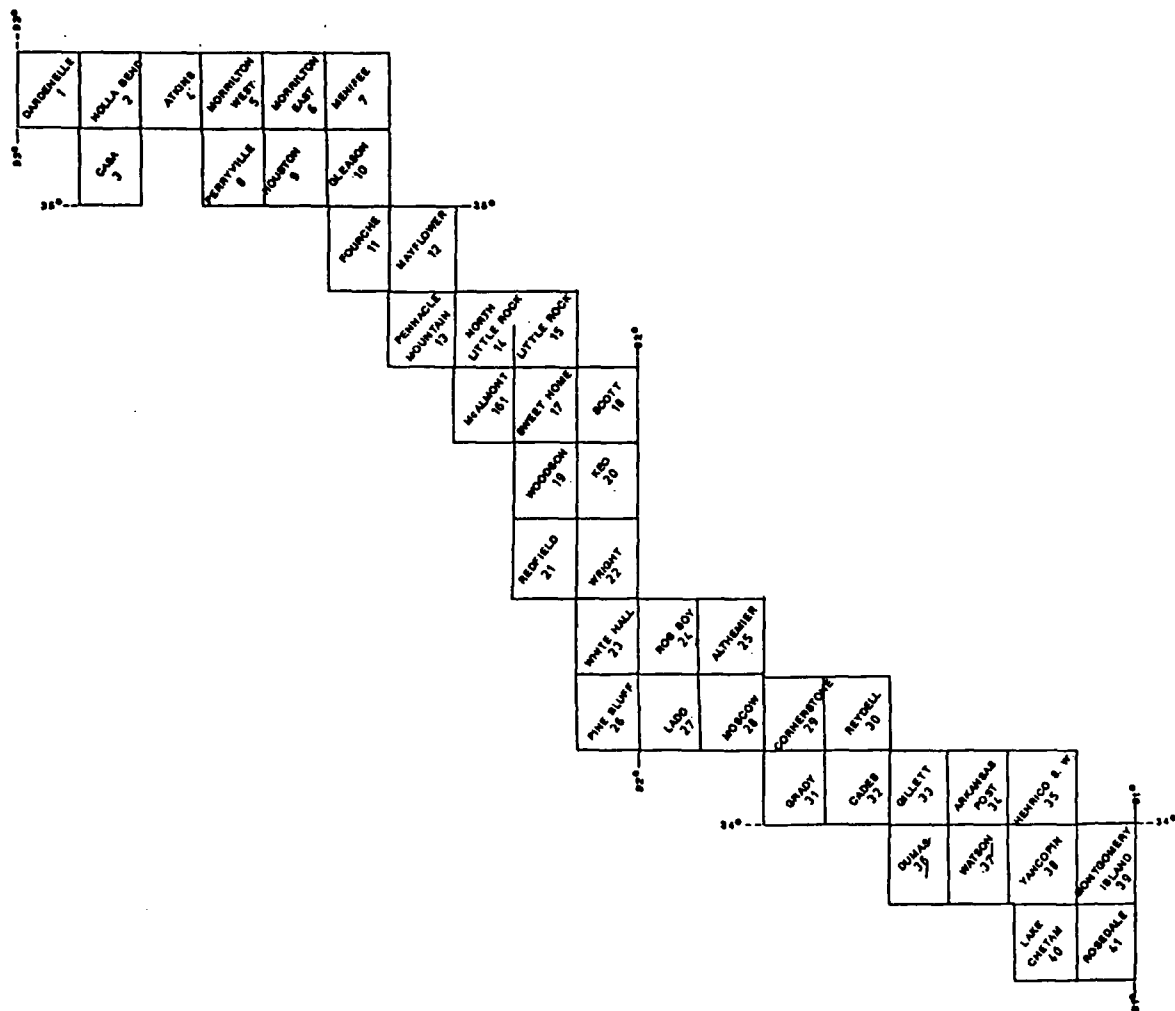


Figure 4. Index of Project Quadrangles.

Field Work

The field investigations were designed to develop information about the study area's landscape as well as its archeological record. The geomorphological objectives were to (1) examine the active geomorphic processes in the study area, (2) confirm the identification of previously mapped geomorphic features in select test areas, (3) examine the shallow stratigraphy, pedogenic horizons, and relative age of select areas with the potential for containing buried archeological sites, (4) examine the nature of slackwater deposits in the tributaries of the Arkansas River, and (5) observe the geomorphology on a realistic scale. The archeological objectives, narrowly defined, were to document the surface or near surface aspects of the archeological record in locations thought to contain both high and low site potential.

Field work was undertaken in three stages. The first was an initial reconnaissance of the project area begun with an aerial view of the entire project area (Figure 5). Immediately following this aerial reconnaissance, field work concentrated on the documentation of geomorphological processes active within portions of the project area and their possible effects on cultural resources. This was conducted by Lawson Smith and Phyllis Breland with the assistance of W. J. Bennett, Jr. Field examinations included the extraction of numerous soil cores (2 inches in diameter to a maximum of 2.5m in depth) extracted using a Bull Soil Sampler (Figure 6) and the examination



Figure 5. Aircraft Used to View Project Area.



Figure 6. Soil Coring at Survey Unit 5.



Figure 7. Bankline Profile Examination.

bankline profiles (Figure 7). Data derived from this initial stage of field work and the analysis of the project area using remotely sensed data derived from aerial photography, USGS quadrangle sheets, and old maps of the Arkansas River were integrated by the team from WES.

These preliminary results were discussed during a two-day meeting held at Archeological Assessments, Inc., Nashville, Arkansas, which included both the team from WES and Archeological Assessments project members as well as Robert Dunn, archeologist with USAED,LR. At this time nine segments of the project area were targeted for intensive cultural resource survey. This work was conducted by the team of John Northcutt, John Northrip, and Robert Abbott from August 31 to September 22, 1987.

The second stage of field work was successful in identifying numerous previously unrecorded cultural resources and areas from which significant additional geomorphological data could be gathered. Thus, a third field stage of field work concentrating on the tributary valleys and the analysis of soil profiles and site locations discovered during the second phase of field work was undertaken. This was led by Lawson Smith and Phyllis Breland from WES and assisted by W. J. Bennett, Jr., and John Northrip from Archeological Assessments, Inc. This stage took place from September 27 to 30, 1987. Considerable further insight into particular locations was provided by James Hoelscher, project soils scientist (Figure 8). John Riggs,

USAED,LR, also participated in a portion of this stage of field work.

Laboratory Analyses

Each prehistoric period item was classified according to its morphology, size, and (where possible) raw material, cultural affiliation, and function. Lithic debris, which constituted the great bulk of the collection, was divided into three different categories: artifacts, flakes, and debris. For the purposes of this effort, raw material types include chert (not further differentiated), novaculite, quartzite, and sandstone.

Artifacts consist of three types of items. These include whole pieces or fragments which can be recognized as a particular kind of tool on the basis of form (projectile points, drills, scrapers, and the like). A second group of artifacts consists of items which, although not morphologically distinctive, exhibit various kinds of edge damage, wear, or breakage, suggesting use in tasks such as cutting, scraping, engraving, hammering, or grinding. The third group of items classified as artifacts consists primarily of object pieces (tested cobbles, cores, blanks, or preforms) thought to have been discarded or abandoned during the tool manufacturing sequence.



Figure 8. Bankline Examination.

Flakes are those rather thin pieces of stone detached from a larger piece of parent or object material in the process of tool formation. The presence or absence of platforms was noted for each individual flake. The presence and type of cortex was specified for each flake where possible. The size of all complete or nearly complete flakes was recorded. Modification and/or heat fracture on flakes was also noted. Finally, debris consists primarily of natural, unmodified lithic materials such as cobbles, pebbles, and angular chunk fragments (often called "blocky debris"), including fire-cracked rock.

Historic period materials were cleaned and described according to raw material class (ceramics, glass, metal, etc.), function, and (where possible) date.

These data were entered on Archeological Assessments' Collection Description Forms which were used to construct a computer data base for the materials. These forms will be placed on deposit with the collection. Descriptions of all recovered lithic artifacts, prehistoric ceramics, and Historic period materials are given with the summary site descriptions which are submitted under separate cover.

All collected materials were cleaned, identified, and described by Christina Cojeen. Subsequently they have been deposited for curation at the University of Arkansas Museum, Fayetteville (Accession Number 88-65).

Data Analysis and Synthesis

Data related to site characteristics were placed into a computer data base management system (dBase III+) modified for this purpose by Brauna Hartzell. These data included site number (state and field number), quadrangle sheet location, landform type, cultural affiliation, nature of deposits, areal extent, depth, and site condition. These data were used to generate the tables presented in this report which discuss site distribution and site evaluation. Data related to recovered materials were also entered into this system to be used in subsequent manipulation for the interpretation of site distribution. The site summary sheets were generated directly from this data base management program.

The maps prepared by the WES team were used to form the basis of a geographic information system data base created by AAI using the pcARC/INFO system developed by ESRI. This vector-based system is capable of

manipulating line, polygon, and point data for a wide number of applications. Each polygon coverage has an associated alphanumeric database. The system automatically calculates the area and perimeter for each polygon within the coverage.

The resultant database is comprised of map components or overlays (called coverages) and an alphanumeric database that has been linked relationally to the coverages. The coverages created for the study area in this effort include:

- Geomorphology, composed of polygons defining the boundary of the various landforms with their appropriate labels;
- Legal locational units, township, range and section lines, county boundaries;
- Arkansas River boundaries as shown on the quadrangle and associated lakes and tributaries within the study area;
- Archeological sites located within or in close proximity to the study area; and,
- Areas surveyed during this investigation.

Data was entered initially by quadrangle sheet. Once data entry was completed the coverages were linked to produce pool-by-pool coverages so that an overall view of each pool is obtained. The quadrangle sheet coverage was also retained in the system.

There are a number of applications for this system. For example, the alphanumeric database for the geomorphology coverage is composed of the calculated area and perimeter of each polygon, the landform label, and code for any overlying deposits, i. e. natural levees, crevasses, historic accretion. From this information, a query of the database could produce a calculation of the total area covered by natural levee deposits or historic accretion deposits. Another query could produce the amount of land designated as a particular landform type (Arkansas River point bar or the like).

Other fields such as a relative probability for site occurrence could be added to the alphanumeric database by creating a numeric scale (1, 2, 3; High, Medium, Low) assigned for relative probability for each landform type. Maps could then be produced showing, in color or in various hatch patterns, the location of high, medium, and low site probability areas.

Maps using any combination of coverages may be produced and by using the alphanumeric database various landform types and/or overlying deposits may be highlighted with color or any number of hatch patterns. For example, a map of one pool can be produced showing the river channel and associated lakes and tributaries, political boundaries, and sites located only on Arkansas River point bars which highlight the sites in one color and the point bars in another. Various types of sites can also be distinguished graphically.

CHAPTER 3: ARCHEOLOGICAL CONTEXT

Along its more than 200 mile course from Russellville to the Mississippi River, the Arkansas River flows through two very different physiographic provinces. From Fort Smith to Little Rock, it flows through the Ouachita Mountains. At Little Rock it enters the Mississippi River embayment. Thus, Pools 9, 8, and 7 of the McClellan-Kerr Navigation System are situated within the Ouachita Mountains Physiographic Province. Pools 6, 5, 4, 3, 2, and Norrell Lock and Dam are within the Mississippi River embayment (Haley 1976).

These physiographic divisions are thought to correlate at least partially with pre-Euro-American cultural differences. Those portions of the Arkansas River Valley from Little Rock eastward are generally interpreted as belonging to the Lower Mississippi Valley cultural sphere. That part of the Arkansas River Valley in western Arkansas, from Russellville westward, is generally interpreted as part of the Trans-Mississippi South cultural sphere as defined by Schambach et al. (1982). There is currently no consensus about how best to interpret the cultures found in the Arkansas River Valley between Russellville and Little Rock (Pools 9, 8, and 7).

Overviews

While there have been many culture-historical summaries offered for various portions of the Arkansas River Valley over the last decade or so, such a study has not been undertaken for the entire area. The portion of *A State Plan for the Conservation of Archeological Resources in Arkansas* which deals with southeastern Arkansas summarizes information pertinent to the project area east of Little Rock (Jeter et al. 1982) as part of the Arkansas River Lowlands area. Jeter (1982) is a summary for southeastern Arkansas which includes the extreme eastern portion of our project area (basically Arkansas County). By far the most comprehensive synthesis of the region is the volume titled *Archaeology of the Central Mississippi Valley* (Morse and Morse 1983). The eastern portion of our present project area, the Arkansas River Lowlands, forms the southern boundary of the region discussed in that important study. No adequate summaries exist for that portion of our project area between Little Rock and Russellville (Davis 1982).

In this context, however, it should be noted that the U.S. Army Corps of Engineers, Southwest Division, has commissioned a compendious overview of the cultural resources for portions of Arkansas, Missouri, Oklahoma, Louisiana, Kansas, Texas, and New Mexico. This work has been undertaken by the Arkansas Archeological Survey and draft copies of portions of this work related to the Arkansas River are now in review (Sabo et al. 1986; Jeter et al. n.d.). Blakely and Bennett (1988) summarizes at an overview level the archeological data available for the various pools within the context of the development of Historic Preservation Plans for these projects.

Our perception of the nature of the cultural resource base within the project area (defined as lands along the Arkansas River and its tributaries whose management is, in various ways, the responsibility of the USAED,LR) is shaped by the nature of previous studies and research projects. This section will focus on those previous efforts thought to be of particular importance for this study.

Previous Investigations

In their summary of archeological work in the Central Mississippi Valley that portion of the Mississippi River Valley from the mouth of the Ohio River to the mouth of the Arkansas River Morse and Morse wrote:

As of January 1971 approximately 2700 sites were recorded in the Central Valley. In the decade that followed this number increased to around 8700. In 1971 this total was over 80% of the sites recorded in the entire Central and Lower valleys; if anything, the percentage has increased. Probably only around 2% of these sites have been investigated beyond a simple surface collection. The total recorded to date probably represents less than a 1% sample of those actually present. Based on the minimal definition of site there are approximately 1 million surface sites in the Central Valley. . . . Even test pitting is not an extensively used tool of recovery in the valley. Probably fewer than 100 sites have been tested by the excavation of one to half a dozen test squares. Most of these are located in southeast Missouri. . . . Fewer than 20 major tests and excavations have ever been conducted in the valley, so there has actually

been relatively little research-oriented major excavation, in comparison with the potential (Morse and Morse 1983: 35-37).

The situation is much worse in the upstream portions of our project area where serious professional archeological investigations have been most notable by their absence. Thus, the discussion which follows is largely given over to work done in the lower valley portion of the project area where the presence and number of so many impressive earthworks along with extensive and dense scatters of pre-Euro-American artifacts has attracted the notice of many diverse visitors and researchers. The high visibility of such sites, along with the enormous quantities of "museum quality" artifacts (primarily ceramics), probably accounts for the fact that almost all research into the region's history has been concentrated on them. These mound sites became magnets attracting curiosity seekers, treasure hunters, and archeologists alike. These resources have dominated regional research and focused interest on those late prehistoric cultural groups responsible for their creation.

It is not our purpose to recount all the major efforts dealing with these investigations and problems; a fine summary is presented in Morse and Morse (1983: 17-30). The intent here is to focus on those investigations which most directly affect sites potentially within our study area. Therefore, we will concentrate on work in the Arkansas River Valley.

Thomas Nuttall

While the records of events and impressions of the earliest Spanish and French explorers contain important information about the people they encountered, we will begin our consideration of the work of the English-born traveling botanist, Thomas Nuttall. Nuttall's journal provides us with information about the natural and cultural environments he found along the Arkansas River in the early 19th century.

On October 2, 1818, Thomas Nuttall left Philadelphia to begin his travels into the Arkansas Territory, chronicled in his 1822 publication of *A Journal of Travels into the Arkansas Territory During the Year 1819*. In the dedication of his account of this journey Nuttall wrote the following paragraphs to those who had supported the effort:

Permit me to lay before you the humble narrative of a journey, chiefly undertaken for the investigation of the natural history of a region hitherto unexplored. Excuse the imperfect performance of the gratifying tasks which you liberally had imposed, but which was rendered almost abortive by the visitation of affliction.

If, in so tiresome a volume of desultory remarks, you should meet with some momentary gratification, some transient amusement, or ray of information, the author will receive the satisfaction of not having laboured entirely in vain.

He included in the publication of his journal appendices titled "An Account of the Ancient Aboriginal Population of the Banks of the Mississippi, and the Contiguous Country" (one of the earliest considerations of DeSoto's expedition through the area), "History of the Natchez," and "Observations on the Chickasaws and Choctaws." Unlike the journal, these appendices were not the product of Nuttall's direct observations during this journey. However, they do show a keen interest in the pre-Euro-American occupation of this area. It is therefore not surprising that the journal entries contain descriptions of his encounters with contemporary Native American groups and individuals. Further, he includes descriptions of several abandoned village and mound sites, thereby providing his readers with invaluable information about the location and condition of particular sites along the Arkansas River.

Nuttall entered the Arkansas River proper via a bayou cutoff from the White River on January 16, 1819. His journey upstream, with stops at several communities including Arkansas Post and Cadron, to the military garrison at Belle Point (Fort Smith) was concluded on April 24 (Figure 9). The trip downstream lasted from October 16 until January 20. At the time of his journey, there were many small settlements and scattered farmsteads along the length of the Arkansas River. He reports that "From Arkansas to the Cadron, a distance of about 300 miles by water, I now understood there existed a considerable line of settlements along the north border of the river, and that the greatest uninhabited interval did not exceed 30 miles (Nuttall 1980: 100).

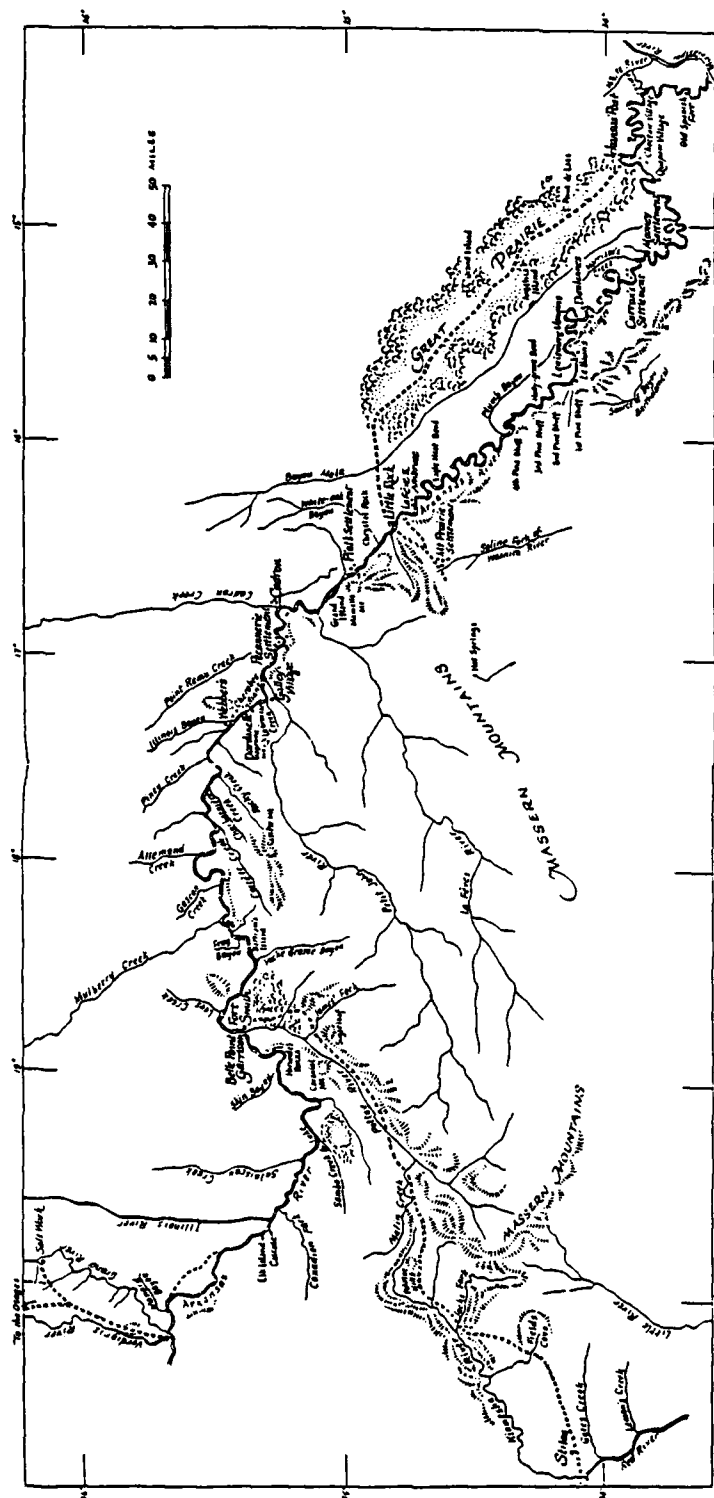


Figure 9. Tanner's Map of Nuttall's Travels.

His observations during these days provide readers with a both fascinating and informative account of the Euro-American settlements along the Arkansas River current at the time of his trip, the contemporary Native American settlements and individuals he encountered, and those Native American sites created and abandoned for the most part before to the time of his visit. Moreover, the 1822 publication contained sketches and maps of various locations, including a map of the Arkansas River by H. S. Tanner (Figure 9; Nuttall 1980: 74, 75).

Bureau of Ethnology Mound Exploration

Near the end of the 19th century another prominent research organization sponsored a major scientific effort focusing on the pre-Euro-American archeological remains of the Mississippi River Valley. Investigations sponsored in part by the Smithsonian Institution were undertaken at several sites in eastern Arkansas, including the Toltec Mound Site (3LN42) (then known as the Knapp site) near Scott, Arkansas, and the Menard Mounds

at the southern end of the Grand Prairie (Thomas 1985, Palmer 1917). Rolingson (1982c) has summarized much of the available information about this early work as it pertains to the Toltec Mounds. While clearly the procedures of this effort were to document the nature of the large, impressive mound sites, this was not done for its own sake. Here the intent was to investigate their origins more precisely, to determine as succinctly stated in Phillips, Ford, and Griffin (1951: 40) "(i)f the mounds had been built by Indians." A number of the complete ceramic vessels recovered during this effort are illustrated and discussed in Holmes (1903).

Besides the work done at the Toltec site, excavations were also conducted at the Menard site, called one of the most remarkable mounds in the state (Thomas 1985: 229-231). At the time of investigation the site had already been vandalized by relic hunters and there were reports of a metal cross found four feet below the surface by amateurs. Figure 10 is a copy of Palmer's plan showing the main mound with the two "wings" and a number of small flat-topped mounds thought to have been house sites.

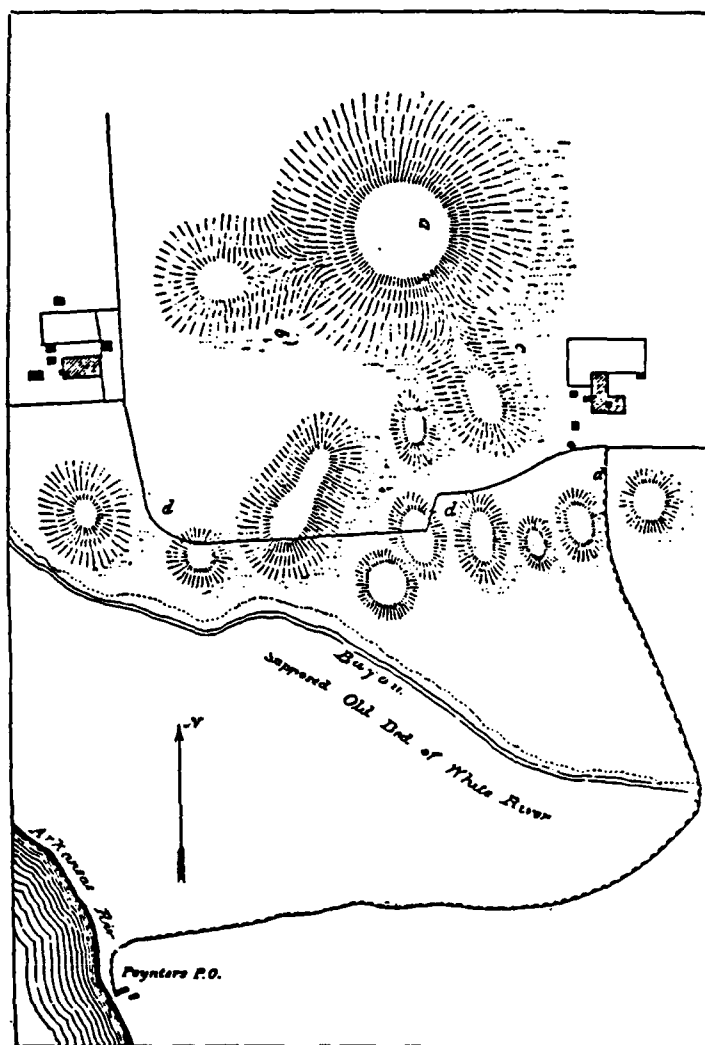


FIG. 137.—Plan of Menard mounds, Arkansas county, Arkansas.

Figure 10. Palmer's Map of Menard Mounds.

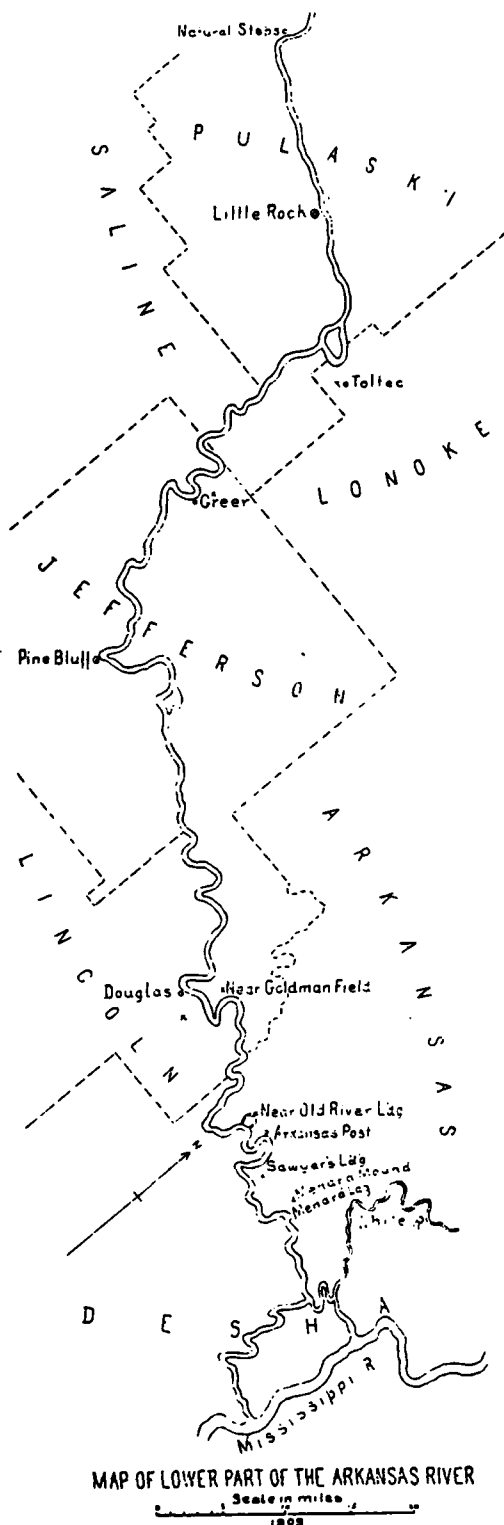


Figure 11. C. B. Moore's Map of the Lower Arkansas River.

Clarence B. Moore

Other efforts at the close of the 19th century and in the early decades of the 20th century were undertaken primarily to gather museum pieces. Notable among those involved in this effort was C. B. Moore. He conducted excavations at several locations along the Arkansas River between the Menard Mound and Natural Steps (Figure 11) during February, March, and April of 1908. He summarized his findings as follows:

With the exception of the Menard mound, and the so-called Toltec group below Little Rock, the mounds of the Arkansas river between its mouth and Natural Steps (that part of the river with which this report has to do), are insignificant in number and in size; while aboriginal cemeteries, as to the location of which a clue could be had, were far from numerous. The river is constantly changing its course, and many mounds and cemeteries, no doubt, have been swept away in the past or have been left far inland (Moore 1908: 481).

Many of the ceramics he recovered from burial contexts are displayed in his report, particularly examples of the "teapot" form which he found peculiar to eastern Arkansas and nearby regions (Moore 1908: 484). Additional illustrations of ceramics recovered by Moore from the Menard, Old River, and Douglas sites are illustrated in Ford (1961).

Warren K. Moorehead

Investigations in the Arkansas River Valley west of Little Rock were undertaken by Warren K. Moorehead beginning in 1915 (Moorehead 1931). These were also focused on the location and description of large prehistoric sites which were rich in artifacts. An assistant, C. B. Franklin, spent four months traveling the Arkansas River Valley from Havana, Arkansas, in Yell County, to above Canadian, Texas. Moorehead wrote, "After we had

returned East Mr. Franklin employed young men to search the fields and he secured an extensive collection of objects. . ." (Moorehead 1931: 11).

Moorehead's remarks on the abundance of sites and materials within Yell County are of interest. "One does not wish to repeat, but we again emphasize the importance of the Yell County sector and urge its careful exploration. Possibly we have two cultures although, apparently, Caddoan influence prevails (Moorehead 1931: 13)."

Mark R. Harrington and the Carden Bottoms Site(s)

During the winter of 1924, Mark R. Harrington of the Heye Foundation was apprised of the wholesale looting of a late prehistoric cemetery in the Carden Bottoms area of Yell County. He subsequently witnessed the "excavation" of hundreds of complete vessels with the concomitant destruction of the osteological materials from this area and their transport, by the wagon-load, to market (Harrington 1924).

Harrington was able to record and to purchase some of these ceramics and associated artifacts but no accurate records of their provenience ever existed. Subsequently a number of these ceramics were acquired by the University of Arkansas Museum and have been the subject of a study by Phyllis Clancy (Clancy 1985).

S. C. Dellinger and the University of Arkansas Museum

During the 1930s S. C. Dellinger, Curator of the University of Arkansas Museum, pursued an active interest in the ceramics and culture of the Arkansas River Valley. The joint study of Dickinson and Dellinger (1940) of ceramics from the Arkansas River Valley illustrates a number of complete vessels from the region. Perhaps the most notable outcome of this interest was the excavation of a number of graves from the Kinkead-Mainard Site (3PU2) near Natural Steps by a team from the University of Arkansas Museum in 1932. The intent of this project was to determine if, or to what extent, ceramics known primarily from the lower Arkansas River Valley were present in burials with ceramics generally associated with the Caddoan groups farther west in the Arkansas River Valley and in the Ouachita Mountains. This effort recovered a number of whole ceramic vessels and other burial items from what was judged to be a very late prehistoric site. These materials were the focus of a study by Michael Hoffman, also of the University of Arkansas Museum (Hoffman 1977). Hoffman considers the inventory within the context of reaching a better understanding of the relationship of the Quapaw groups present in the lower Arkansas River Valley during the 17th and 18th centuries.

The Lower Mississippi Valley Survey (LMS)

Notwithstanding the spectacular discoveries made by the early investigators, the project which set the basic parameters for most of the later work was the famous Lower Mississippi Valley Survey (Phillips, Ford, and Griffin 1951; Phillips 1970). This work concentrated on the establishment of cultural units from artifacts (primarily ceramics) recovered from numerous sites in Missouri, Arkansas, Mississippi, and Louisiana. This effort established the framework within which subsequent investigations have been conducted and determined the course of regional research for the next four decades.

It is fair to say that almost all of the subsequent investigations in the Arkansas River Valley east of Little Rock have been aimed at the further definition of the cultural units and ceramic types proposed by the Lower Valley Survey. A subsequent but much lesser-known effort was the "Dalton Project" designed to investigate the early (Paleo-Indian and Archaic) periods (Redfield 1962). Because of its place in the history of regional (and North American prehistoric) research, it is appropriate to consider the aims and methods of the LMS in some detail.

With their study area "originally planned to cover the Mississippi Valley from the mouth of the Ohio south to the vicinity of Vicksburg, Mississippi" (Phillips, Ford and Griffin 1951: 5) the investigators stated their research objectives in this way:

There is general agreement among students of Southeastern archaeology that the climax of the late prehistoric cultures is the archaeological facies long recognized under the designation "Middle Mississippi." At a comparatively late — A.D. 1400-1500 is probably not too late for its peak of develop-

ment — this culture type was firmly established over an immense area. The large prehistoric settlements represented by the remains at Cahokia, Moundville, Etowah, and Macon, not to mention some of the less-known but equally impressive sites described in the present work, are thought to have been occupied about this time, or even later. By 1939, when the present Survey was first discussed, an immense amount of data on Middle Mississippi had accumulated, but the problem of its origins and development appeared to be as far from resolution as ever. There was a general impression, shared by many students of Southeastern culture, that this was because the "central" Mississippi Valley, the assumed center of distribution of the culture, had not been sufficiently investigated. It was primarily to make good this lack that the present Survey was undertaken. (Phillips, Ford and Griffin 1951: 39)

This brings us again to what we may call the main Survey problem. We have spoken of the desirability of investigating Middle Mississippi on what was assumed to be its home ground in the hope that some light might be thrown upon its antecedents. These, it could be assumed, lay in a period dominated elsewhere by cultures of Hopewell-Marksville affinity. . . . Thus, on the first day in the field, the Survey problem shifted from the general one of putting a floor under Middle Mississippi to the more specific one of the relationship between Middle Mississippi and an earlier Hopewellian culture, to which we gave the provisional name of Baytown, and it has remained there ever since. (Phillips, Ford, and Griffin 1951: 40).

The survey program was to include three stages of work: (1) preliminary site survey and analysis of surface collections; (2) stratigraphic tests on a large number of sites; and, (3) small-scale excavations on key sites. Work on the survey in this original configuration began in 1940, was interrupted by World War II, and concluded in 1949. It catalogued 385 sites and excavated 20 units on 11 sites. No site excavation was accomplished. Subsequent field work associated with this larger project was undertaken in the Yazoo Basin during the 1950s and was reported in Phillips (1970). Work, directed primarily from the Peabody Museum at Harvard University, has continued on a sporadic basis since that time, primarily in Mississippi and Louisiana. Jeter et al. (n.d.) discusses this.

Field survey and analysis efforts were aided considerably by the then recently published 15-Minute Quadrangle Sheets for the area prepared by the Mississippi River Commission. These sheets allowed for a systematic consideration of the area and sites were recorded within a grid system within which each sheet constituted a block. The survey had covered, "with unequal thoroughness," 49 out of the 171 quadrangles.

The intent was not to be a complete recording of all the sites within an area. Rather, "the object was merely an adequate sampling of sites, sufficient to provide a safe coverage of the area and to insure against the omission of any significant cultural manifestation" (Phillips, Ford, and Griffin 1951: 41). In keeping with this objective the survey:

was, however, at all times a strictly motorized reconnaissance. Only rarely were attempts made to run down reported sites that could not be reached by car, or at least by jeep, and these were almost invariably unsuccessful. We made an effort to traverse all public roads and as many private roads as were passable, and thus managed to view from a reasonable distance practically all the cultivated land, which, in the flood-plain sections is practically equivalent to all the land that would have been suitable for Indian occupation and a great deal more besides. The term "reasonable distance" perhaps requires some explanation. In the cultivated portions of the flood plain a site with mounds or midden accumulations, however small, is generally visible from a considerable distance. This is the way the great majority of sites were located. A large number, of course, were found on information picked up along the roadside at the cost of innumerable coca-colas and some indigestion (Phillips, Ford, and Griffin 1951: 41).

The principal aim in data recovery was the collection of samples of ceramic materials, not the recording of sites. "It was our view that the sole object of surface collecting was to get adequate samples of associated material. The emphasis was therefore on the collection rather than on the site" (Phillips, Ford, and Griffin 1951: 42).

Test excavations were done using primarily 2 x 2m test squares excavated in 10cm levels. Usually the matrix was sifted through screens of 1/2 inch hardware cloth. The investigators contended that,

It frequently happens, as we shall show, that a homogeneous deposit, without observable soil stratification, may be made to yield a stratigraphic record of the utmost value. Obviously, such an unstratified deposit will have to be excavated by arbitrary levels, to which method the term "metrical stratigraphy" has sometimes been applied in derogation, as opposed to "natural stratigraphy" obtained by peeling stratified layers (Phillips, Ford, and Griffin 1951: 241).

Phillips addressed this method of excavation again in 1970:

There is a growing tendency among archaeologists to disparage excavation by 'metrical' as opposed to 'natural' levels as an antediluvian technique that no responsible archaeologist would be caught using today. Anyone who feels this way has probably not been digging village sites on the Lower Mississippi floodplain. . . I think there is a 'natural' explanation for the lack of encouraging results. Village sites on the floodplain are invariably located on older natural levee surfaces formed by periodic overflows of the Mississippi or its principal tributaries. Levee deposits may vary slightly from one levee system to another, depending on the soils from which they are ultimately derived, but in any one levee system they are uniform in an overall sense. In general average fashion they grade off horizontally in grain size from coarse to fine according to distance from the bankline, but this sorting is subject to an enormous amount of local variation. In an overflow, levees are not topped uniformly for long stretches, but rather by means of innumerable small breaks, each depositing its load of coarser sediments in its own way. This results in sharply contrasting lenses of very small dimensions and absolutely no significance, temporal or otherwise. If village deposits are accumulating in this kind of matrix, the only discontinuities that mean anything are attributable to the activities of man. In such deposits structural features play a minor role; the principal differentiations are the results of changes in the content of refuse, i.e., varying amounts of shell, ash, charcoal, etc., and variations in the intensity of organic stain. These are usually described in field notes and on profiles in terms of color gradations of low contrast. The most frequent comment is that a given line on the profile represents the excavator's best guess as to the location of an imaginary boundary between one deposit and another. It goes without saying that if two deposits cannot be readily separated in two dimensions on the profile, it is not going to be easy to separate them in three dimensions with a trowel (Phillips 1970: 575).

The LMS investigated a number of sites at the southern end of the Grand Prairie near Arkansas Post and the subsequent Arkansas Post Canal during the 1941 field season. The investigators report that from "the edge of the Ridge extending northeastward from Menard along the banks of the present Menard Bayou is said to be practically a continuous village site for several miles. Much of this land is wooded so we were able to check the accuracy of this statement only at intermittent points with the results that we have catalogued as Menard (17-K-1), Wallace (17-K-3), Poor (17-L-3), Massey (17-L-1), and Ellerton (17-L-2) what may actually be only separate portions of a continuous area of occupation." (Phillips, Ford, and Griffin 1951: 266)

Test excavations were conducted at both the Menard and the Massey sites (Phillips, Ford, and Griffin 1951: 265-273). The occupation of these sites was judged to belong to the Baytown and Mississippi periods. They concluded by saying, "These sites, together with the intervening Wallace and Poor sites not forgetting the possible De Soto and Quapaw connections would be an excellent place for further work on the important problem of Baytown-Mississippi relationships" (Phillips, Ford, and Griffin 1951: 273).

Over 350,000 individual sherds were collected and placed into a typological matrix for interpretation. This interpretive framework was to become the type-variety system published in Phillips (1970). Regarding the establishment of the typological system the investigators stated that:

It has become practically mandatory in putting typological studies into print to declare at the outset that classification is regarded therein purely as a 'tool,' fashioned to suit the material in hand and the kind of information one hopes to get out of it. Unfortunately, the phenomenon of inter-changeability of ends and means is not confined to political science. Also, there is magic in names. Once let a hatful

of miserable fragments of fourth-rate pottery be dignified by a 'Name,' and there will follow inevitably the tendency for the name to become an entity, particularly in the mind of him who gives it. Go a step further and publish a description and the type embarks on an independent existence of its own. At that point the classification ceases to be a 'tool' and the archaeologist becomes one. This fate we shall endeavor, probably not successfully, to avoid in the pages to follow (Phillips, Ford, and Griffin 1951: 61-62).

Notwithstanding these misgivings, the collection from the first season was sorted by the three investigators into various 'types.'

The 1940 season's material, consisting of surface collections only, from 149 sites, mainly in the Lower Arkansas River Lowland and St. Francis River Basin, was shipped to Baton Rouge for cataloguing, and there sorted by the writers at the conclusion of the field season. This preliminary sorting was done in the time-honored way, that is, by piling the whole mass of sherds into one terrifying heap, and sorting them as many ways as possible. The experience in other Southeastern areas prompted the use of tempering differences as a primary breakdown, and the result was that we ended up with 47 types loosely grouped into three temper groups: shell, clay, and sand. Fiber-tempering did not occur in the first season's collections. The 'constants' selected were in the categories of surface finish and decoration. Under the latter, technique of decoration was relied on more than design, as is necessary when sorting surface material, on account of the small size of the sherds (Phillips, Ford and Griffin 1951: 66).

This initial sorting became the basic framework into which other materials were integrated with what were felt to be appropriate modifications to the types as new data appeared. Ford then organized these types into a chronological framework by a process of seriation (Phillips, Ford, and Griffin 1951). The process used assumed that the frequency of pottery types changed in an orderly way through time:

If our pottery types are successful measuring units for a continuous stream of changing cultural ideas, it follows that when the relative popularity of these types is graphed through time, a more or less long, single-peak curve will usually result. Put in another way, a type will first appear in very small percentages, will gradually increase to its maximum popularity, and then, as it is replaced by its succeeding type, will gradually decrease and disappear (Phillips, Ford, and Griffin 1951: 220).

Thus, the seriation took the basic form of plotting "battleship curves" and a tentative sequence of ceramic types within certain cultural periods was suggested (Phillips, Ford, and Griffin 1951).

In summary of its work, the Lower Mississippi Valley Survey offered a culture-historical sequence of the region which, from early to late included the following divisions: Poverty Point, Tchula, Baytown (early middle, and late), and Mississippi (early and late). In his subsequent formulation of this sequence, Phillips (1970: 20) provides us with a very succinct statement of this:

Following the Poverty Point period, in which the cultural balance is between the northern and southern parts of the area seems to lie with the latter, comes the Tchula period in which the balance is not yet clear; then the Marksville period of northern (Hopewellian) dominance; followed by a Baytown period of apparent cultural recession (?) particularly in the north; next a period of renewed intensity with Coles Creek culture of mixed but preponderantly southern origins extending its influence northward until met in the early Mississippi period by a second radiation of northern (Mississippian) culture which, in the late Mississippian period, finally prevails.

He concluded by saying, "Needless to add, this sequence is little more than a chain of interdependent hypotheses, none of which can now be adequately supported" (Phillips 1970: 20).

Another, pioneering activity was undertaken by the LMS. Just at the time of the LMS, a detailed chronology for the Mississippi Alluvial Valley was published by Fisk (Fisk 1944). An experimental effort was undertaken by

Phillips to correlate a number of site locations with the sequences suggested by Fisk. Phillips concludes this segment by saying,

The analysis described in the foregoing pages was frankly experimental. The sample was not regarded as adequate from any point of view, the relative dating on our side still in a tentative stage, on the other (Fisk's) accepted on trust. The most we could expect was some intimation of the future possibilities of this line of investigation. These expectations were abundantly fulfilled. With a larger sample of sites collected under stricter topographic control and new methods of analysis that will undoubtedly suggest themselves as the work proceeds, we may look forward to the time when we shall be able to discuss the archaeology of the Lower Mississippi Valley in terms of Mississippi River stages with considerable confidence. Once this happy state is reached, conversion to absolute dating via dendrochronology, carbon 14, or some other as yet undiscovered method of dating archaeological materials will be a foregone conclusion (Phillips, Ford, and Griffin 1951: 305-306).

We conclude our discussion of this monumental effort by citing Phillips' effort to identify particular sites with those mentioned in documents related to the Spanish and French exploration of the area. Concentration was on the DeSoto expedition which had just been considered earlier by the DeSoto Commission and the sites along the lower Arkansas associated with the Quapaw (Arkansas) Indians and the early French establishments.

National Park Service Sponsored Investigations in the Arkansas Post Area

James A. Ford has provided a succinct summary of these excavations:

In 1955 the National Park Service initiated a program of investigation to determine the locations of the various forts which the French, Spaniards, and Americans had placed near the mouth of the Arkansas River at different times. The results of this work were intended to be used as the basis for the evaluation of the suitability for park purposes of a locality that had played an important part in the early history of North America.

This study was conducted in three phases. Utilizing the historical records and analyses of these records, the Park Service historian, Ray H. Mattison, prepared a comprehensive manuscript entitled "Report on the Historical Investigations of Arkansas Post, Arkansas." Concurrently, Preston Holder began archeological field-work. In 1956 and 1957 Holder worked principally in an area near the Arkansas Post State Park, a park that preserves the remains of the military establishment and town that existed there at the beginning of the nineteenth century. Here Holder found what seemed to be the remains of a settlement established by the French soon after 1750. Though Holder was well aware of the probable significance of the Menard Locality, his work there was limited to a few small pits because he failed to obtain permission to excavate. His field-work resulted in two manuscript reports: "Archaeological field research on the problem of the locations of Arkansas Post, 1686-1803," and "A preliminary report on work in progress at the Menard Site." Holder then turned his attention to other work, so at the request of J. C. Harrington, Director of Interpretation of the Park Service Region 1 office in Richmond, Virginia, the American Museum made my services available for an investigation of the Menard Site in the spring of 1958 (Ford 1961: 133).

Ford's discussion of work at the Menard site includes an account of previous investigations by Palmer and Phillips as well as providing illustrations and notes of previously unpublished materials from Moore's work. He concluded that Phillips was essentially correct in the identification of this site with the Quapaw village of Osotouy.

Subsequent to these investigations excavations and studies have been conducted at the site on Arkansas Post National Park. These include Wilson (1966), Walker (1971), Martin (1977), and Westbury (1976). A summary of these activities is given in Jeter et al. (n.d.).

Investigations in the McClellan-Kerr Navigation System

The first investigations related directly to the construction of the McClellan-Kerr Navigation System were undertaken in 1965 at Morgan Point and the Arkansas Post Canal (Davis and Baker 1974). Davis and Baker (1974:1,2) describe the areas examined in Arkansas County:

... the University of Arkansas Museum spent seven days in June 1965, doing an intensive 'emergency' archeological survey in the area of ongoing construction, from the Pendleton Ferry to Lock and Dam No. 1. In particular, the area affected by the Arkansas Post Canal, Lock No. 2, Dam No. 2, (at the Morgan Point cutoff), and Lock and Dam No. 1 were investigated.

Construction work was well underway before the cooperative agreement was negotiated. In addition, during the course of the survey, it was discovered that the Corps was also planning to construct a small dam on Dry Lake in the White River National Wildlife Refuge in order to aid in the general recreational development of this portion of the State. The area to be affected by this construction was also investigated.

Areas examined are illustrated in Davis and Baker (1974: Figure 1).

As has been mentioned, construction was far advanced on the Arkansas Post Canal and related projects when the survey was made. However, James Rawlinson, Research Assistant at the University of Arkansas Museum, was able to walk the right-of-ways for the canal (or rather the edges thereof), the Morgan Bend cutoff, the associated levees, road construction for these projects, borrow pits, drainage ditches, and the proposed public use areas in the vicinity of all this work.

A total of six sites were located. Surface collections were made from all but one of these, considerably augmented in most cases by the donation of surface collections made earlier by local people. It was not possible to visit one site, but a donated collection was studied.

Additional work was done at two sites, 3AR5 and 3AR30 (the Roland Mound). Subsequent salvage work was undertaken in 1966 at the Roland Mound (Scholtz 1971).

The major site location effort in connection with the construction of the navigation system is reported in Scholtz and Hoffman (1968). This effort was undertaken largely after construction of the system had begun. From Little Rock eastward this included six lock and dam areas, two channel cut-offs (Brodie Bend and Boyd Point), land proposed for use as port facilities at Little Rock and Pine Bluff, and 17 proposed public use areas.

Scholtz reports the discovery of no sites in the areas investigated below Little Rock. However, by the time of his investigation both Brodie Bend and Boyd Point cutoffs had been constructed, and construction was well underway at four of the six lock and dam sites (Scholtz and Hoffman 1968: 3). Scholtz reported the project was likely to have some effect on the Greer Mound site (3JE50) on the outer edge of Brodie Bend (Scholtz and Hoffman 1968: 4-10).

Scholtz reported that "(t)he land between the present levee system and the Arkansas River southeast of Little Rock is low-lying and has been subject to bank caving and periodic flooding, so any sites there may have washed away in the past or been covered with alluvium" (Scholtz and Hoffman 1968: 4).

Hoffman, concentrating on the area from Little Rock upstream to Russellville, investigated a number of public use areas including the Maumelle Public Use Area (3PU16), the Palarm Creek Public Use Area (no sites), the White City Church Public Use Area (no sites), the Fourche Public Use Area (3PE3), the Morrilton City Dump Public Use Area (no sites), the Cypress Creek Public Use Area (no sites), the Cadron Creek Public Use Area (3CN13), the Sweeden Island Public Use Area (3PP38, 3PP39), the Holla Bend Public Use Area (no sites), and the Petit Jean River Fishing Area (no sites) as well as the sites for Lock and Dam 7, 8, and 9.

Construction activity at the lock and dam sites had removed any existing sites, including sites 3FA22 (and indirectly 3FA20, 3FA23 through ferry relocation) at Lock and Dam 8 and 3CN8 through 3CN12 at Lock and Dam 9.

Site testing activities were conducted at four sites (Myer 1969). Three of these (3PU16 the Hudson Site, 3PU18 the Norwood Site, and 3CN13 the Cadron Creek Site) are located within our project area. A fourth, the Spadra Factory Site, is located in Lake Dardanelle.

3PU16 was thought to be potentially impacted by the construction of a public use area behind Lock and Dam 7. A crew of five college students excavated there under the direction of Michael Hoffman and Nancy Myer from July 17 to 26, 1967. Materials recovered included projectile points thought to be dated to the Archaic period as well as clay and shell-tempered ceramics.

Excavations were conducted over two days at 3PU18, also to be included in a public use area. Archaic period projectile points were recovered as well as shell-tempered ceramics.

3CN13 is located near the present confluence of Cadron Creek and the Arkansas River. Four days of excavation here recovered Woodland and Mississippian ceramics and arrow points as well as an extensive midden.

Cadron

In 1973 a program of site investigations was carried out by Samuel Smith of the Arkansas Archeological Survey in connection with the planned development of a public use area at that location (Smith 1974). In addition to a limited amount of documentary research, a five-week field work program was conducted. The work recovered materials including ceramics from the 19th century use of the site.

Toltec

Since the mid-1970s when it was purchased by the Arkansas Department of Parks and Tourism, there has been in development a long-range program of research directed by the Arkansas Archeological Survey at what was originally called the Knapp site. History of the development of this program is described in Rolingson (1982a; 1982b). Notable from this program was the attempt to use X-ray diffraction techniques in the study of ceramics (Stewart-Abernathy 1982; 1985). While these studies bore primarily negative results, they nevertheless marked a beginning in this type of study.

Conway Water Supply Project

An extensive program of site location, evaluation, and data recovery was conducted in the Conway Water Supply area of Faulkner County by the Arkansas Archeological Survey under direct sponsorship of the USAED,LR (Martin and Jones 1978; Santeford and Martin 1980; Hemmings and House 1984). This resulted in the documentation of both pre-Euro-American and Euro-American sites and a large-scale data recovery program at the Alexander Site. This effort included a systematic attempt to develop a suitable background for the evaluation and understanding of Euro-American sites (Watkins 1980; Santeford and Martin 1980).

Notable among the results of the Alexander Site investigations were the bioarcheological investigations conducted under the supervision of Jerome Rose, Department of Anthropology, University of Arkansas - Fayetteville (Rose and Marks 1984). While the osteological material was not extensive it was possible to formulate a number of hypotheses regarding the nature of the population at the period of more than several hundred years from about 100 B.C. to A.D. 1400. A listing of extant skeletal collections from the Arkansas River Valley within the state of Arkansas is given (Rose and Marks 1984: 169).

Paleo-botanical studies at the Alexander Site (King 1984) indicated a shift in floral aspects of the diet with wild (perhaps encouraged) materials in the Coles Creek and the presence of maize in the late Mississippian period.

Native Americans and European Exploration

In closing we refer to several ongoing studies which have focused on the interpretation of previously gathered archeological data (both site information and materials) related to the period of European exploration and

settlement of the Arkansas River Valley. These include Michael Hoffman's work on the Native American groups occupying the area during this period, particularly the Quapaw (Hoffman 1983; 1985) as well as his analysis of materials recovered by University of Arkansas Museum excavations in the 1930s at the Kinkaid-Mainard site (Hoffman 1977).

Mention should also be made of the recent round of speculation on the role the Arkansas River played in the DeSoto route (Hudson 1985; Dickinson 1986).

Geomorphology and Archeology

Finally, reference should be made to the extremely important contribution to archeological research in the region by the geomorphological investigations conducted in the Lower Mississippi Valley by Roger T. Saucier (Saucier 1974). This important work and a subsequent article (Saucier 1981) provide researchers with information and interpretation of the geomorphic development of the Lower Mississippi River Valley which challenges many of the assumptions upon which Fisk (1944) was based. Unfortunately, archeological investigators have been extremely slow to incorporate the wealth of information and insight available from their colleagues in the fields of earth science.

Summary

We can summarize much of this research by using the observation by which we began this discussion. Research in the Arkansas River Valley has been focused almost entirely on the terminal phases of the pre-Euro-American occupation of the valley; the major exception being the Dalton Project (Redfield 1962). Some attention has been given to sites and issues related to early European exploration and settlement, but this has largely been limited to a few select locations like Arkansas Post and Cadron. At the other end of the temporal spectrum, it is fair to say that nothing is known about the occupation of the Arkansas River Valley prior to about 2,000 years ago, except to say that it existed.

Not only has the focus of research been restricted to a small portion of the period of human use; it has also been tightly focused on a single aspect of that period, ceramics. Research has attempted to understand the occupation of the Arkansas River Valley on the basis of the typological study of ceramics recovered from surface or otherwise unstratified contexts.

CHAPTER 4. DESCRIPTION OF GEOMORPHIC FEATURES

Perhaps the principal product of this effort was the identification of specific fluvial features within the ARNS. These have been identified on appropriately annotated 1:24,000 quadrangle sheets (Plates 1-41) and have been used to explain the past and present geomorphological events that have occurred within the study area. All the fluvial features were developed by the Arkansas, White, or Mississippi rivers or their major tributaries. Some information about the geomorphic origin of fluvial features may be made by observing the width of the abandoned channels. The smaller (less than 500 feet) channel widths were most likely formed by the White River, the medium (500-1500 feet) channel widths reflect the Arkansas River and the wider (2500-5000 feet) channel widths are typically associated with the Mississippi River. This method has exceptions based on the age and location of the abandoned channel. In the case of the abandoned course the age of the course may be reflected in the channel size which decreases with increasing amounts of sediment deposited in the channel. Additionally, the amount of sediment deposited in the abandoned channel is directly proportional to the distance that the abandoned channel is from the source of sediment, the active river. Indication of the original source of genesis is shown by the first capital letter of the identification code of each feature. For example, all features that are related to the Arkansas River begin with the capital letter "A". All features related to the White River begin with the capital letter "W" and features related to the Mississippi River begin with a "M." A capital letter "T" indicates that the geomorphic feature is related to an Arkansas River tributary rather than the Arkansas, White, or Mississippi rivers. Ten geomorphic features were identified in the study area and are described below without reference to specific river system.

Point bar (APb, WPb, MPb)

Streams migrate laterally to satisfy an equilibrium relationship between flow conditions, type and amount of sediment load, bed and bank materials, and the sinuosity of its channel. Channel migration occurs when the outside bank, or "cut bank" of a channel erodes the bank material and the channel migrates laterally and down stream. As migration continues, the inside of the cutbank receives eroded bank material from upstream cutbank erosion and is deposited on the inside bank as a series of sand ridges divided by low lying silt and clay swales. The low lying swales are typically lined with silt and clay deposits from water standing behind a ridge. The ridge and swale complex is called a point bar.

Point bar deposits are as thick as the total depth of the channel that formed them. The grain size distribution in a point bar deposit fines upward texturally from the maximum size of the bedload material through sand, silt and often clay (in the swale areas of the pointbar). The sand and gravel in the channel bed is deposited through lateral accretion (channel migration) and the silt and clay in swales is the product of vertical (overbank) accretion.

Point bar deposits make up the majority of the Arkansas River Valley alluvium in the study area. Arkansas River point bar deposition is well illustrated in the Bayou Meto Reach by an extensive ridge and swale topography.

Abandoned Channel (ACh, TCh)

Loops of actively meandering channels are often cut off from the stream's main channel during flood events. Natural cutoffs usually occur in two ways; a) by neck cuts, or b) by chute cuts. A highly sinuous channel may cut off a portion of the meandering stream (usually a single loop) by migrating through a narrowed loop neck and plugging the remainder of the loop with bedload material (usually sand). The result is a highly arcuate, abandoned channel which now is considered a lake. The abandoned channel is almost totally hydraulically removed from the active channel with the exception of overbank floods that may flow into the abandoned channel and, if continued, will eventually fill the channel volume with fine grained material. The amount of overbank input into the abandoned channel will diminish if the main channel migrates laterally away from the abandoned channel.

Chute cuts also produce abandoned channels during flood events. During high water, flow will periodically break across the point bar surface and occupy a swale, scouring the swale into a channel. The main channel will eventually prefer the chute path as a more hydraulically efficient stream path and abandon the adjacent loop portion of the meandering stream. Abandoned channels formed from chute cutoffs will fill more quickly with

coarser-grained material than the neck cut abandoned channels. Natural abandoned channels are most apparent in the Plum Bayou and Bayou Meto Reaches of the study area.

Within the study area, several humanly induced cutoffs have been made to improve the hydraulic efficiency of the Arkansas River as a means of flood control. Examples of such cutoffs are the Holla Bend cutoff in the Petit Jean Reach and the Brodie Bend Cutoff in the Fourche Bayou Reach.

Abandoned Course (TCo, ACo, WCo)

An abandoned course is simply two or more connected abandoned meander loops. An abandoned course is a "relict" segment of a former meander belt. The abandoned course differs from an abandoned channel by the mode of abandonment. A channel course is abandoned when the main flow path of a channel is diverted through a breach in the channel bank and occupies a new position within the floodplain of the fluvial system. In Plum Bayou Reach, a White River abandoned course is mapped on the Yancopin quadrangle. The abandoned course marks a former meander belt of the White River. Abandoned tributary courses were mapped on Palarm Creek where vertical accretion from Arkansas River slackwater deposits have not masked the old tributary course.

Undifferentiated Floodplain (TU, AU, WU)

The undifferentiated floodplain is located adjacent to rivers or tributaries. This feature is described as the floodplain of a tributary or river which is veneered or buried by thick vertical accretion deposits. Fluvial features in the floodplain such as point bars, and abandoned channels and courses are not discernible in the "undifferentiated floodplains", however these features remain intact in the subsurface. Backswamps are a common landform associated with undifferentiated floodplains.

Natural Levees (small dot pattern)

Natural levees are formed by overbank deposition of suspended sediment from the adjacent channel stream. The sediment accumulates on the margins of the stream channel and forms low ridges along the channel boundary. The resulting landform is a low, wedge-shaped ridge paralleling the channel, with its maximum height being adjacent to the outside bank of a meander. Natural levees in the Arkansas River valley are well developed and extensive due to the relative dense sediment load of silt and fine sand characteristics of this portion of the Arkansas River. Natural levee deposits are not discriminated in the tributary valleys due to the scale of the geomorphic maps however, most of the present abandoned tributary courses and channels have small (0.3 - 0.6m thick) natural levee deposits adjacent to their stream channels.

The Arkansas River is currently aggrading its channel bed which allows natural levee deposits to extend easily into large portions of the Arkansas River floodplain. Within the project boundary, much of the natural levee deposits have been excavated for use in flood control levee construction.

Crevasse Deposits (open dot pattern)

A crevasse is a tongue-shaped deposit of sand formed when the river breaks through a natural or humanly constructed levee at a single narrow point. Immediately after breaking through the levee, a narrow, deep crevasse channel is formed which serves as a conduit for moving flood flow and sediment out of the river channel. When the flood subsides, a corridor of coarse sand bordering both sides of a largely filled crevasse channel is exposed overlying the previous land surface. The land surface is not severely eroded by the concentrated crevasse flow but is buried by the crevasse sediment. Several large crevasses were identified in the Petit Jean Reach, (Houston quadrangle near RM 170), the Fourche Bayou Reach (Keo quadrangle near RM 96 at Cross Pond), and in the Bayou Meto Reach (Montgomery quadrangle associated with the White River near RM 2).

Terrace (AT, TT)

Alluvial terraces are former floodplain surfaces. Terraces form where the local channel has transgressed through a cycle of bed erosion developing a new floodplain surface which occurs at a lower elevation than former floodplain surfaces. Terraces may form when a local stream responds to a major external factor (i. e., drop in local base level or major change in climate) or they may result from the natural geomorphic evolution of a stream system in absence of major external changes. Terraces are common in most alluvial valleys and may be several thousand years of age or older.

The terraces in the study area are related to either the Arkansas River or to the adjoining tributaries. The height of the distance between the surface of the Arkansas River terrace and the base of the slope in the Bayou Meto Reach is approximately 10 feet. There are few terraces mapped on the geomorphic maps since the project boundary is often located adjacent to the stream channel and does not extend to an elevation that would typically include terrace elevations. Arkansas River terrace features are mapped on the Pinnacle Mountain quadrangle in the Maumelle Reach. Arkansas River terraces also occur in the Bayou Meto Reach near RM 90 where the terraces are larger than the terraces in the Fourche Bayou Reach. On the Arkansas Post quadrangle in the Bayou Meto Reach, Arkansas River terrace features exist between the Little Post Bayou and Dismal Swamp, and also between Dismal Swamp and Merisach Lake.

Some Arkansas River terrace escarpments have been eroded by surface run-off and precipitation resulting in the formation of a low angle slope between the upland surface and the base of the upland. The eroded slope terraces are labeled "ATe." The terrace slope may also be buried by colluvial material transported down-slope during erosional processes along the slope.

Terraces are also associated with the tributaries entering the Arkansas River. Tributary terraces form like the Arkansas River terraces except at a smaller scale. On the Pinnacle Mountain quadrangle, near the mouth of the Little Maumelle River, the tributary terraces are approximately 10 feet above the modern tributary. However, an accurate elevation estimate of tributary terraces should include the thickness of former Arkansas River slackwater deposits. The accumulation of slackwater deposits over the tributary floodplain surface may cause the terrace levels to appear to be at a higher elevation than normal. Elevation delineation between true tributary terraces and slackwater deposits would require a more detailed field study of Arkansas River slackwater deposits. The number of tributary terraces are minimal due to the confines of the project boundary.

Historic Accretion Deposits (diagonal lines)

Lateral and vertical accretion deposits (deposits formed since the initiation of standardized cartographic records by the General Land Office in 1825) are indicated by diagonal lines. Historic lateral and vertical accretion deposits represent the geomorphic activity of the Arkansas River since the inception of documentary records. The historic accretion deposits were eliminated from field examination in the study area due to their recent age. Most historic accretion deposits are immediately adjacent to the modern Arkansas River channel and become increasingly dominant at areas closest to the mouth of the Arkansas River. The increasing amount of historic deposits towards the mouth of the Arkansas River is the result of the Arkansas River meandering through the unconsolidated floodplain alluvium of former Arkansas, White, and Mississippi river meander belts in the alluvial valley.

Former Arkansas River Banks

Progressive lateral migration of the Arkansas River throughout the last half of the Holocene has resulted in the formation of a number of crescent-shaped slightly elevated ridges. The convex side of the ridge consists of natural levee deposits and the concave side is usually reworked by lateral migration processes, forming a series of point bar deposits. These ridges may be six to twelve feet high and 1.0 to 1.4 miles broad and represent the outside banks of former Arkansas River meanders. The thick adjacent natural levee deposits suggest a period of temporary channel stability roughly 20 - 100 years in length as the natural levee grew in height and width.

Former Arkansas River cutbanks are distinguished from point bar ridges by their broad extension of ridges which are considerably larger, higher, and less numerous than the many point bar ridges.

There are several locations in the study area where groups (3 - 4) of former Arkansas River cutbanks occur. These sites may be seen on the Cornerstone, Wright, and Morrilton West quadrangles. Mississippi and White river cutbanks occur near the confluence of the White, Mississippi, and Arkansas Rivers in the Rosedale, Yancopin, and Montgomery Island quadrangles.

Upland Slope (US)

The alluvial valleys of the Arkansas River and its tributaries upstream of Little Rock are bound by valley walls where erosional processes expose the local Pennsylvanian rock. These valley walls are exposed in the Petit Jean and Maumelle River reaches and are mapped as upland slope. The upland slope is a surface formed by erosion of Pennsylvanian formations by local tributaries to the Arkansas River. Upland slope areas, as mapped, have a wide range of local slope, from gentle (2-3 percent) to vertical. On the more gentle slopes (less than 15 percent), these surfaces are usually covered by a well-developed residual soil developed in the host rock (typically sandstone or shale). This residual soil is characterized by its well-developed pedogenic horizons and yellowish-orange color. The upland slope areas occur in small pockets along the study area boundary of the Petit Jean and Maumelle River reaches.

Slackwater Deposits (AS)

The aggrading character of the Arkansas River during the Holocene has caused aggradation in the lower portions of the major tributary valleys. The deposits are designated as Arkansas River slackwater sediments and occur in all the main tributaries in the study area with the exception of the Petit Jean River. Backwater flooding from the Arkansas River causes the tributary channel beds to aggrade which results in a "drowned" tributary. The tributary valleys may become drowned with slackwater as far as 8 miles up the tributary valley as in Cadron Creek. Slackwater sedimentation may also restrict the lateral migration of a tributary course by the thick fine-grained, cohesive Arkansas River slackwater deposits. Slackwater deposits may reach a thickness of 8 - 10 feet at the mouth of some tributaries, such as the Maumelle River.

Rimswamp (RS)

Rimswamps are shallow swamp areas along the base of the upland which fill with drainage from the upland slopes and surfaces. Rimswamps are located on the outer margins of an alluvial meander belt and are typically less than 0.5 square miles in area. A rimswamp is shown on the Pinnacle Mountain quadrangle at the base of Rector Hill near RM 131.

Backswamps (BS)

Backswamps are shallow swamps that form within the alluvial valley floodplain. The difference between a rimswamp and a backswamp lies in their geomorphic location. Rimswamps lie between meander belts and the upland valley wall. Backswamps lie in the alluvial valley between meander belts and not adjacent to the upland wall. A common backswamp location is behind natural levees of abandoned courses or channels. A backswamp was mapped on the Atkins quadrangle at the base of an Arkansas River terrace near Galla Creek. A backswamp may also form in drowned geomorphic features such as the drowned abandoned channel at Cross Pond on the Keo quadrangle.

Archeological Significance of Landforms and Geomorphological Development

The geomorphic development of landforms may strongly control the location (establishment) and existence (preservation) of an archeological site. Therefore, when the geomorphic development of a location is understood, preservation probabilities of the location may be defined. Previous geomorphic studies in the Arkansas River Valley conducted in support of archeological studies have shown that systematic patterns of pre-Euro-American occupation exist with response to landforms, the principal element of the landscape (Smith 1986a, 1986b). However, alluvial valleys are also areas of natural hazards such as flooding, bank caving, and disease sources in poorly drained areas.

Geomorphic processes in the natural environment not only influence location of an archeological site but also act either to preserve or destroy the site. The magnitude, frequency and duration of the natural forces (geomorphic processes) is written in the geomorphic history. The geomorphic history provides information critical to the discrimination between areas of possible/probable site burial and disturbances.

Pre-Euro-American occupations often show a preferential distribution among fluvial landforms, particularly in the alluvial valleys of southeastern United States. Preferential landforms are typically higher in elevation than the surrounding areas, well-drained (sandy), and adjacent to areas with relatively high natural resource availability. The preferential geomorphic features in an alluvial valley include natural levees or high point bar ridges adjacent to abandoned channels, abandoned courses and modern channels, cut banks of migrating channels, and high areas adjacent to backswamps and rimswamps. Examination of the location of known sites in the Arkansas River Valley indicates that known archeological sites on the Arkansas River are usually located on one of the preferential geomorphic features, and are often buried by vertical accretion deposits such as natural levee or slackwater deposits from the aggrading Arkansas River.

The stability of a landform depends on the geomorphological process acting on the landforms. The characteristics of the landform surface contain information about the processes that may have been active on the landform in the past. Landform characteristics observed in the Arkansas River Valley include (1) evidence of erosion by the occurrence of gullies on the surface as well as by missing strata or soil horizons in the subsurface, (2) signs of massive bank failure along the Arkansas River and in the tributaries, along with other mass wasting events, (3) burial by active natural levee sediment, or (4) drowning of tributary valleys by Arkansas River backwater and associated burial by slackwater deposits.

CHAPTER 5. THE REACHES

In the following paragraphs the five reaches of the Arkansas River in the study area are discussed. A detailed description of the geomorphological character of each reach is given which includes identification of salient landforms, the apparent activity of the river as indicated on the geomorphic maps and the occurrence and significance of tributary streams. Archeological investigations undertaken in each reach are described and a description of the archeological record of the reach as presently documented is given. Finally, the areas of probable prehistoric site occurrence are presented, based on the consideration of the geomorphological context of the known sites in the Arkansas River Valley.

The Petit Jean Reach (Pools 8 and 9)

Geomorphological Description

The Petit Jean Reach extends from Dardanelle to RM 158 where Jefferson Mountain and Cadron Ridge constrict the Arkansas River floodplain to a width of less than 0.5 miles. The Petit Jean Reach extends over parts of ten quadrangles (Plates 1-10). Approximately 85 percent of the study area within this reach has been reworked by lateral migration of the modern Arkansas River and consists of accretion deposits formed during the Historic period.

In the Petit Jean Reach, the Arkansas River is a narrow, generally straight stream constrained by regional geologic structure between Dardanelle and a point east of Petit Jean Mountain (RM 183). The floodplain between Dardanelle and Petit Jean Mountain averages approximately 0.5 miles wide.

Downstream from Petit Jean Mountain, the Arkansas River enters into an area where a breach in the constraining structural folds allows the Arkansas River floodplain to widen to approximately 4 miles. The project boundary is very near the channel margin except for those areas inside historic period Holla Bend and Molten cutoffs.

The Arkansas River is constrained by regional geologic structure between Jefferson Mountain and Cadron Creek where the floodplain decreases in width to less than one mile. The areas with the broadest floodplain width indicate areas where the Arkansas River has encountered less resistant materials (usually shales) in the erosional development of its valley. The Arkansas River is confined to a relatively straight channel by dikes near Sweeden and Crane islands; however, abandoned channels in the floodplain adjacent to the modern channel of the Petit Jean Reach indicate that the river meandered in a sinuous pattern sometime in the recent past. The Arkansas River meandered downstream of Morrilton where numerous abandoned channels have been cut by the modern channel. The abandoned channels on the north side of the river imply a southward migration of the Arkansas River over the last several thousand years.

Due to the scarcity of absolute chronological data, an age for the past Arkansas River meandering is difficult to determine, however, the reported occurrence of an archeological site (3YE10) in the Arkansas River floodplain located approximately three miles south of Dardanelle indicates that the floodplain surface is at least 1500 years old at this location.

In the Petit Jean Reach, there are four major tributaries: the Petit Jean River, Point Remove Creek, Cypress Creek, and Cadron Creek. Petit Jean River enters the Arkansas River at RM 187 as a straight stream confined by the local geologic structure on the southeast with point bar deposits from Crane Island on the northwest. Point Remove Creek flows in abandoned channels of the Arkansas River for approximately seven miles before it enters the Arkansas River at RM 175. Lateral migration of the Point Remove Creek is limited to the channel boundaries of the abandoned Arkansas River channel, consequently the floodplain of Point Remove Creek is minimal. Cypress Creek enters the Arkansas River at RM 169. Cypress Creek has a well-developed floodplain but is completely outside the study area. Cadron Creek enters the Arkansas River at RM 159. The modern channel of Cadron Creek is relatively straight, however, abandoned channels and courses in the floodplain of Cadron Creek indicate that the stream has meandered to the point of cutting itself off and taking a new course. Field observations show that vertical accretion deposits are interfingered with as much as 12 feet of Arkansas River

slackwater deposits near the mouth of Cadron Creek. Lateral migration of Cadron Creek appears to be constrained by the thick relatively fine-grained cohesive Arkansas River slackwater deposits.

Archeological Investigations

Archeological investigations were undertaken at several locations during the initial survey for the construction of the ARNS (Scholtz and Hoffman 1968). The areas examined included the locations for Lock and Dams 8 and 9.

The site chosen for Lock and Dam 9 consists of a high bank on the south side of the Arkansas River and a low north bank which appears to have been flooded often. The high south bank was composed of a number of tongues of land 20 feet above the normal river level which were separated by ravines through which small streams flowed. There appear to have been Archaic sites on all these tongues of land (five in total, 3CN8-3CN12). By the time of the survey all these sites had been destroyed or badly damaged by construction work. The land on the north side of the river at the lock and dam site was walked but no sites were found. This area appears to have been too low to have been attractive for aboriginal habitation (Scholtz and Hoffman 1968: 16).

Other areas examined include the proposed Sweeden Island Public Use Area, the Holla Bend Public Use Area, and the Petit Jean River Fishing Area.

The site chosen for Lock and Dam 8 is at a point where the river has a high east bank and a low west bank. The high east bank consists of an extension of high land from nearby hills. Most of the construction on the east bank was well underway by the time the area was surveyed. Evidence was found that at least one site (3FA22, Old Toad Suck site) had been destroyed at this location. This site appears to have been of the Early Ceramic Stage. The location of Lock and Dam 8 caused the car ferry across the Arkansas River (Toad Suck Ferry) to be moved and the resulting relocation of the ferry brought about the destruction or partial destruction of at least two more site (sic), (3FA20 Calvary site, 3FA23 New Toad Suck Ferry site). One of these sites (3FA20) apparently was Archaic while the other, as yet only partially affected is Late Ceramic. The latter, the New Toad Suck Ferry site, seems worthy of further investigation. Between the site of Lock and Dam 8 and the new location of Toad Suck Ferry another site (3FA21, the Ott site) was found which may have had both Archaic and Early Ceramic occupations. This site is on privately owned land and does not appear to be in any immediate danger of destruction (Scholtz and Hoffman 1968: 14, 15).

The low west bank of the river at Lock and Dam 8 showed no traces of aboriginal occupation.

This effort also examined several areas designated for development as Public Use Areas. No sites were recorded for the Holla Bend Public Use Area, the Petit Jean River Fishing Area, the Morrilton City Dump Public Use Area and the Cypress Creek Public Use Area. Two sites, 3PP38 and 3PP39, judged to date from the Archaic Period were discovered in the area proposed for the Sweeden Island Public Use Area. A single site, 3CN13 (the Cadron Creek Site), was reported for the Cadron Creek Public Use Area. Subsequent site testing activities at 3CN13 (Myer 1969: 27-88) concluded that this site represented occupation from the Woodland (Early Ceramic) into the Mississippian (Late Ceramic) Period.

Site investigation activities have also been conducted at the location of the 19th century Euro-American Cadron settlement (Smith 1974).

Three areas within this reach were examined during this effort. Survey Unit 1 is located on the eastern (Yell County) side of the Petit Jean River at its confluence with the Arkansas River. It is on the western and northern edge of the area known as Carden Bottoms. The Arkansas River channel, which was cut off in the 1950s, was the channel in use by the Arkansas River in 1825. Natural levee deposits associated with Holla Bend are 149cm thick at the edge of the cutoff and overlie a surface that represents vertical accretion from an Arkansas River channel that is more distant from the modern channel than the Holla Bend Channel. Several crevasse channels in the area suggest rapid rates of vertical accretion adjacent to Holla Bend.



Figure 12. Area Under Cultivation, Study Unit 1.

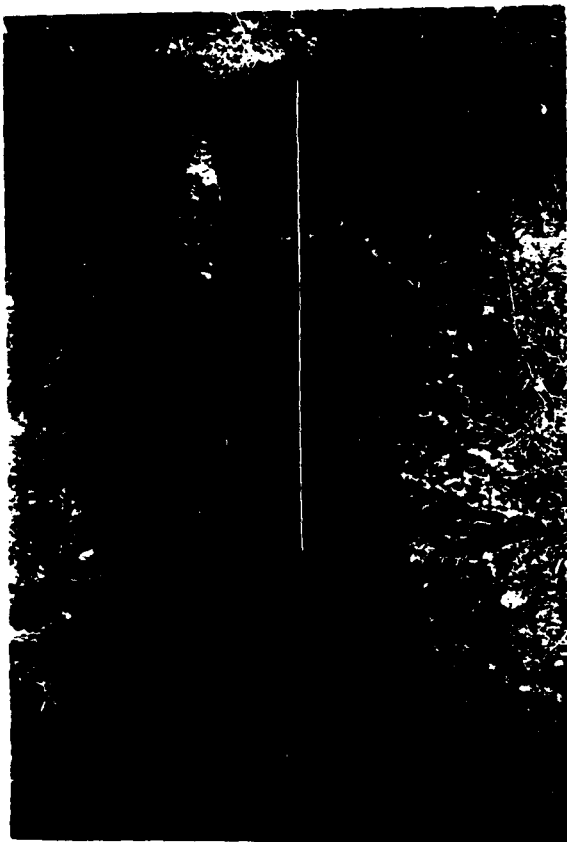


Figure 13. Bankline Profile, Study Unit 1.

The area examined consisted of lateral accretion deposits of the Arkansas River which have been veneered to variable depths by subsequent vertical accretion.

At the time of survey, much of the area was under cultivation, primarily in soybeans. Areas not in cultivation were generally covered by thick brush and overgrown pasture (Figure 12). Visibility was very low, especially outside the cultivated fields. In addition to heavy agricultural use, the area has been impacted by the construction of levees with their associated borrow pits.

Survey strategy consisted of walking transects set at 25 to 50m across the area. Swampy areas and areas of overbank sands over 1m deep (usually next to the channel) were avoided.

A bankline profile along the Petit Jean River to a depth of over 3m indicated a thick layer of alternating silt and clay laminae from approximately 280cm to 260cm (Figure 13). Charcoal chunks and a fragment of possible fire-cracked rock were recovered from below this unit.

Sites recorded during this visit included 3YE312, 3YE313, 3YE314, 3YE315, 3YE316, 3YE317, and 3YE319.

Survey Unit 2 consisted of primarily recent deposits (Sweeden and Crane islands) on the south side of the present Arkansas River Chan-

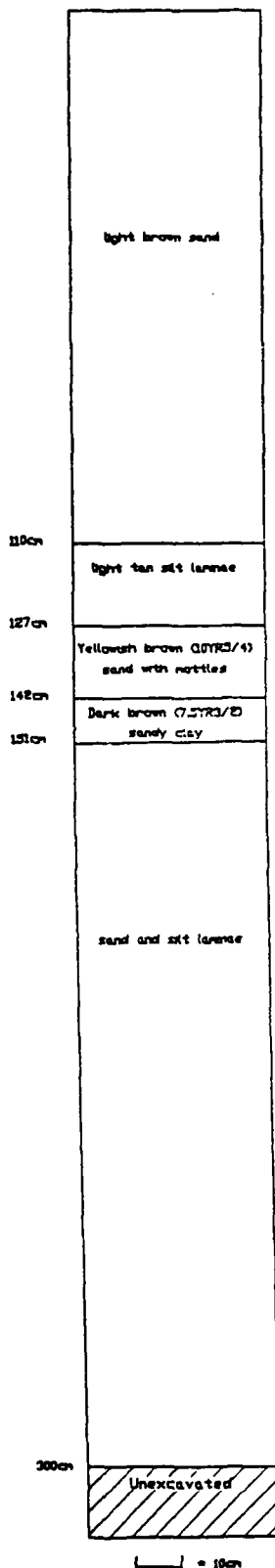


Figure 14. Soil Profile, Study Unit 2.

nel. Sweden Island is an Historic era landform; the natural levee over the west of Crane Island is Historic era vertical accretion; Crane Island is probably less than 100 years old. A profile at the river edge of Crane Island revealed a deposit of sand and silt laminae over 3m deep (Figure 14).

In the area of Old Galla Rock, the upper 30-40cm near the north river bank is natural levee deposits of probable Historic era age.

The abandoned channel in the northern east corner of the Survey Area is almost completely filled, but associated point bar ridge and swale topography is still well-defined. This suggests that the abandoned channel may not be older than 1,000 to 2,000 years.

The old cutbank indicated along the southern edge of the survey unit has been obliterated by levee construction.

Sweden Island (Stubbstown) was a community of about 100 persons during the early part of the 20th century. It was connected by ferry to the town of Galla Rock. This area was being used as a skeet-shooting range at the time of survey and was not investigated.

At the time of survey, the eastern half of the survey unit was covered with an extremely dense growth of vines, trees, and brush. Interviews with local residents indicate a great deal of recent (within the last decade) siltation in the area.

One site, 3YE318, was recorded in Survey Unit 2.

Survey Unit 5 consisted largely of Arkansas River point bar deposits veneered to various depths by natural levee deposits north of the present Arkansas River Channel in the vicinity of Galla Rock. An abandoned channel of the Arkansas River is located at the eastern end of the survey unit. Local informants indicate that Galla Creek, which flows partially through this old channel, was channelized in its southern (lower) limits at the time of levee construction.

At the time of survey, the area was given over to agricultural use, both pasture and cultivation (Figure 15). The area was walked using transects set at 25 to 50m intervals.

Two bankline profiles were examined at the time of survey. One was on the active Arkansas River just south of Galla Rock. The upper portion (90 + cm) was composed of a deposit of sand and silt laminae. The lower portion of this deposit contains large amounts of Historic period debris, including cut nails, glass and ceramic fragments and one lead musket ball (Figure 16). While rich in materials, it appears that there is nothing in situ and is likely a flood deposit. However, a concrete lined cistern was seen eroding from the bank near the area (Figure 17).



Figure 15. Pasture, Survey Unit 5.



Figure 16. Bankline Profile, Survey Unit 5.

The second profile along the old abandoned channel revealed massive deposits of sand and silt laminae to nearly 6m deep (Figure 18).

Sites recorded in Survey Unit 5 include 3PP271 and 3PP272. Site 3PP77 (Galla Rock) was revisited. Local informants report the excavation of several burials from 3PP77 in areas exposed in the 1926 construction of State Highway 105. Local collections (most likely prehistoric artifacts) exist from this site.

The Documented Archeological Record

The Petit Jean Reach has one of the more extensively documented archeological records within the study area. Studies including this effort have documented a complex archeological record including Euro-American sites and extensive late Mississippian period sites (Harrington 1924; Clancy 1985) within Carden Bottoms as well as on the northern side of the present Arkansas River Channel. Archaic period materials are documented for the older landforms flanking the northern bank. These are recorded as 3PP38 and 3PP39 and are located either on Upland Slopes or old Arkansas River Terrace formations. Mississippian period materials are well documented from the



Figure 17. Buried Cistern, Survey Unit 5.

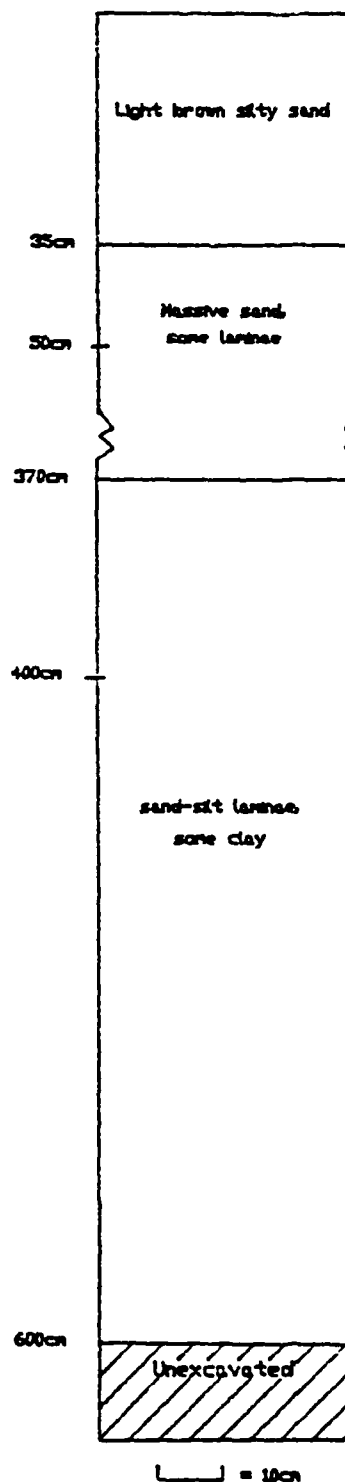


Figure 18. Soil Profile of Abandoned Channel, Survey Unit 5.

BURIAL AND PRESERVATION OF ARCHEOLOGICAL SITES BY PRESENT GEOMORPHIC PROCESSES

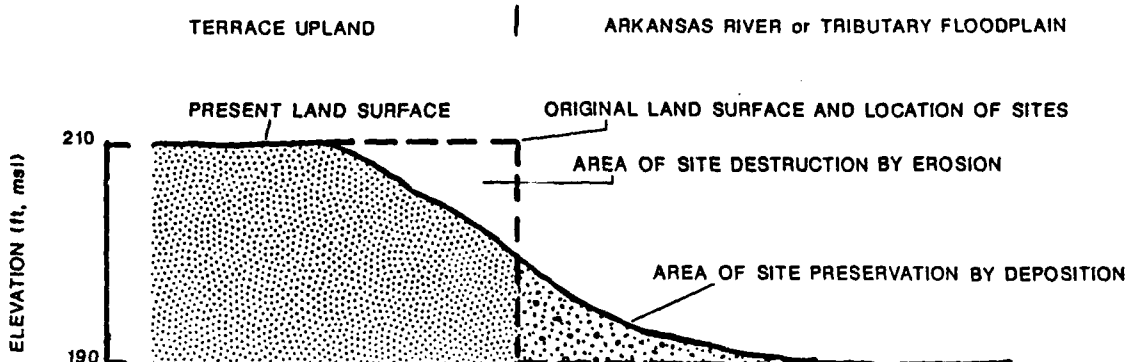


Figure 19. Site Destruction and Preservation by Colluvium.

point bar and natural levee deposits within the old cutoff to the south of the modern Arkansas River Channel. Chronologically undiagnostic prehistoric materials were recovered along the natural levees associated with the Petit Jean River as it flows along the abandoned Arkansas River Channel (3CN191, 3YE236, 3YE238) and on the natural levee deposits covering the Arkansas River point bar deposits (3PP272, 3YE315, 3YE317, 3YE319). Euro-American sites reflecting occupation associated with the communities of Galla Rock and Stubbstown as well as tenant-type farming are present in the area, i.e., 3YE312, 3YE313, 3YE315, 3YE316, 3YE317, 3YE318, 3PP77 (Galla Rock), and 3PP271.

An extensive archeological record is also documented for the Cadron Creek area. The Cadron Creek Site (3CN13) and the Cadron Settlement are located near the confluence of Cadron Creek with the Arkansas River. Most of the recorded sites, however, are located upstream along Cadron and Cypress creeks. These are most likely associated with the Conway Water Supply Project and may not be part of the ARNS management program. These sites include 3CN67, 3CN69, 3CN71, 3CN74, 3CN75, 3CN78, 3CN79, 3CN80, 3CN101, 3FA15, 3FA16, 3FA28, 3FA29, 3FA38, 3FA39, 3FA40, and 3FA80.

Areas of Probable Site Occurrence

The known archeological sites within the Petit Jean Reach are predominantly located on the prehistoric surfaces veneered with natural levee deposits. Discrete geomorphic features within the Petit Jean Reach which may have existed during the prehistoric time may exist in a different form now. An example is a terrace surface located near an escarpment of a tributary valley or the Arkansas River (Figure 19). As terrace or upland escarpments retreat by mass wasting or fluvial erosion, sites on the terrace or upland may be destroyed and sites at the base of the escarpment may be buried.

Two sites in the Petit Jean Reach (3PP38 and 3PP39) are located at the base of upland slopes and may be partially buried by colluvial deposits. Tributary valleys, which commonly contain archeological sites are a prime area for site preservation.

Three large areas (approximately 2 to 3 square miles) in the Petit Jean Reach are areas with a high probability of containing archeological sites. The first area is located near RM 189, north of Crane Island and consists of five different geomorphic features, each containing archeological sites; 1) an abandoned channel with wide-spread natural levee deposits, 2) an upland surface and slope area adjacent to the modern Arkansas River, 3) a rim

rim swamp, 4) an area across the river from the confluence of the Petit Jean River and the Arkansas River, and 5) small tributary valleys such as Galla Creek. Sites in this area were recorded as part of the investigations in Survey Unit 5.

The second area considered highly probable to contain archeological sites is located southwest of Morrilton and north of Willow Bend (Plate 5) which contains former Arkansas River banks with adjacent thick natural levee deposits. The former Arkansas River banks may have prehistoric sites associated with them.

In the same area, Point Remove Creek enters the Arkansas River. Point Remove Creek flows through an abandoned channel of the Arkansas River upon entering the Arkansas River floodplain. Lateral migration of Point Remove Creek has been confined to the limits of the abandoned channel and has not reworked the adjacent floodplain. The relatively stable floodplain adjacent to the mouth of Point Remove Creek is an area of high probability of site occurrence. Five sites, including the Point Remove Mound Site (3CN4) investigated by the Arkansas Archeological Society (Davis 1967) are located immediately north of the Point Remove/Arkansas River confluence occur in this area.

The third area of probable location of archeological sites is the Cadron Creek floodplain and tributary valley within the project area (Plate 9). In the lower portion of Cadron Creek, where Arkansas River slackwater deposits are mapped (AS/TU), archeological sites may be buried beneath the slackwater deposits. As shown in Figure 20, a reconstruction of the stratigraphy of an exposed creek bank approximately 1.5 miles upstream of the confluence of the Arkansas River and Cadron Creek, a substantial amount of Arkansas River slackwater sedimentation has occurred in Cadron Creek, as in most of the tributary valleys. Arkansas River slackwater sediments are readily recognized in the field by their reddish color and the usually finer texture than the tributary alluvium, with the exception of Arkansas River natural levee deposits, which are usually sandy, and occur in the lowermost reach of the tributary valley. The slackwater deposits often extend laterally to the base of the upland.

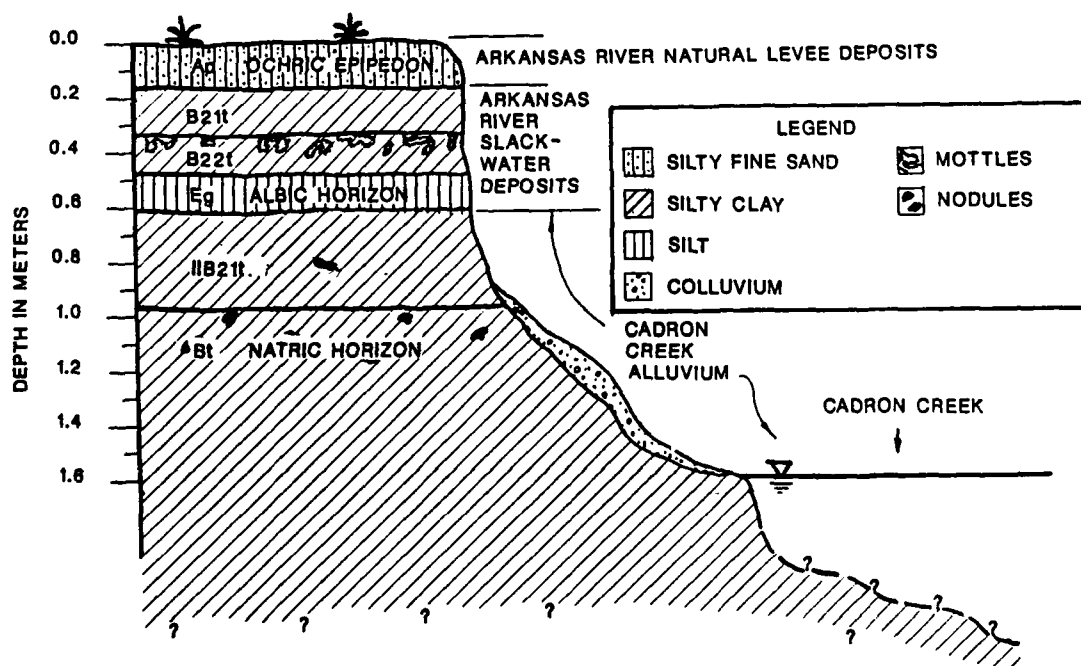


Figure 20. Slackwater Deposits in Cadron Creek.

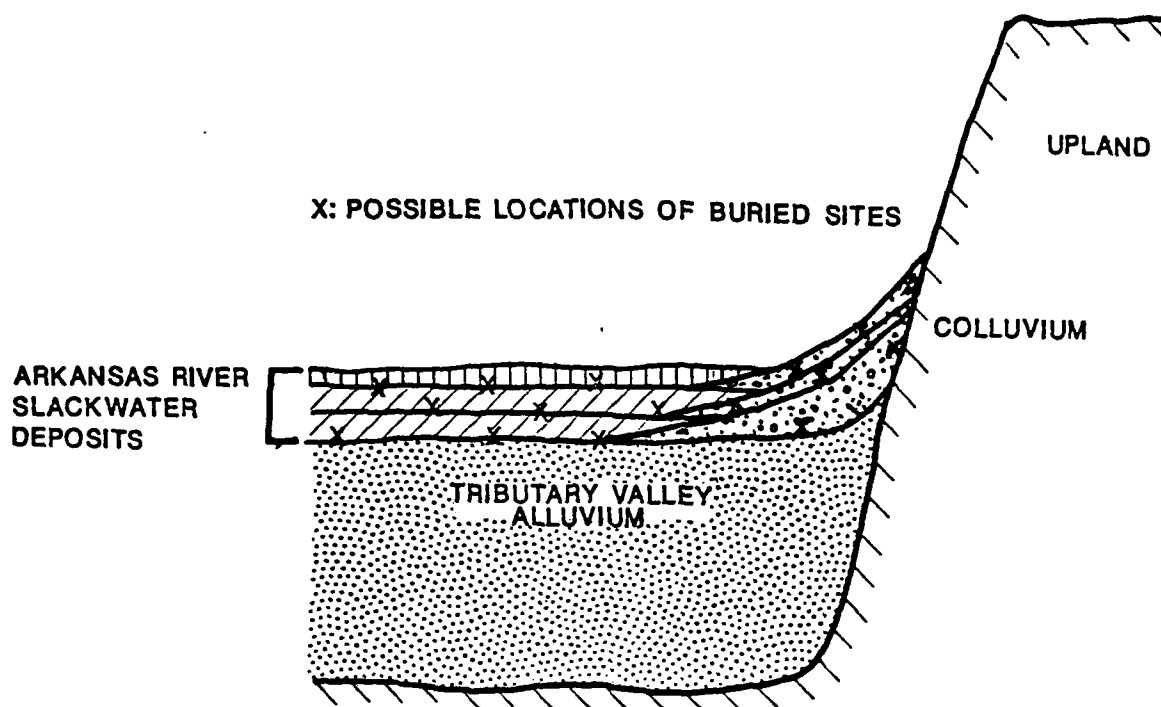


Figure 21. Burial of Material in Slackwater Deposits.

deposits extend to the base of the uplands in Cadron Creek valley, sites may also be buried beneath slackwater deposits and in the colluvium lying on the upland slopes (Figure 21).

The Maumelle River Reach

Geomorphological Description

The Maumelle River Reach begins at a narrow gorge between Cadron Ridge and Jefferson Mountain at RM 158 and extends to the Mississippi River alluvial valley wall at Little Rock. Approximately 80 percent of the study area in the Maumelle River Reach is composed of accretion deposits dating from the Historic period.

In this reach, the width of the floodplain of the Arkansas River is less than a mile at Cadron Ridge and immediately widens to approximately 3.5 miles at RM 150. The Arkansas River breaches the Easterwood and Moss mountains where its floodplain is constrained to a width of less than a mile. The river flows out from the constriction in a southeasterly direction to Mayflower. At Mayflower, the Arkansas River and its floodplain widens and continues in a southeasterly direction. Below the Palarm Creek/Arkansas River confluence the floodplain of the Arkansas River widens and narrows as it encounters resistant and less resistant geologic features. The Arkansas River winds in a southeasterly direction through a series of ridges and mountains between Palarm Creek and Little Rock.

In the Maumelle River Reach, there are four principal tributaries: 1) Fourche La Fave River, 2) Palarm Creek, 3) Little Maumelle River, and 4) Maumelle River. The Fourche La Fave River enters the Arkansas River near RM 147. Only a narrow corridor of the lower 2.5 miles of the Fourche La Fave floodplain are in the project boundary. Palarm Creek enters the Arkansas River at RM 137. The lower five miles of Palarm Creek lie within

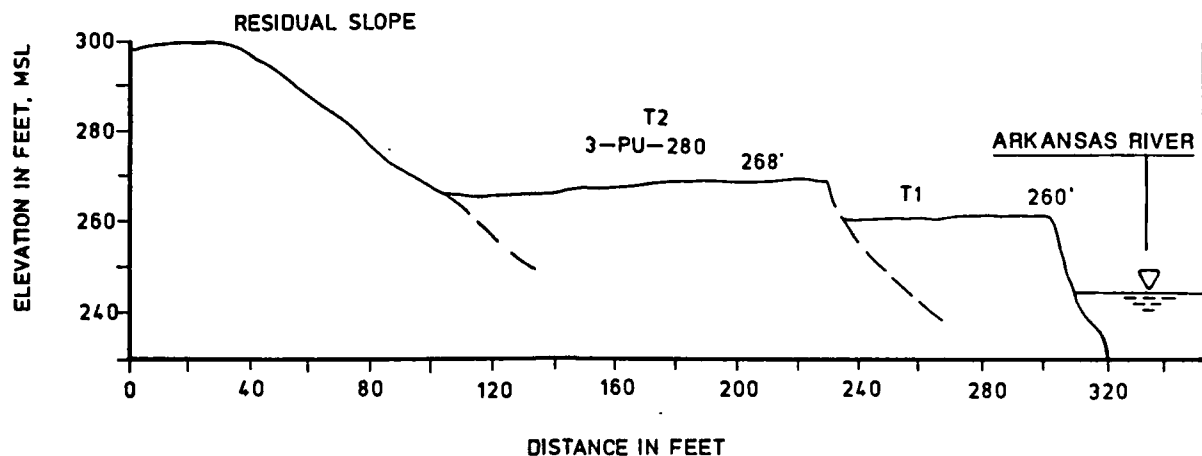


Figure 22. Terrace Levels at Maumelle Park.

the study area. Palarm Creek has a highly sinuous nature and a broad floodplain. Abandoned channels and an abandoned course of Palarm Creek delineated on the geomorphic maps illustrate the meandering nature and extent of lateral migration of Palarm Creek. The area of Palarm Creek floodplain inside the study areas appears to be covered by a veneer of Arkansas River slackwater deposits.

The Maumelle River enters the Arkansas River near RM 132 with a highly sinuous character. The Lower Maumelle River is strongly influenced by the Arkansas River slackwater deposits as indicated by aggradation of its lower floodplain and the absence of tributary alluvial features (abandoned channels and course). Approximately 1.5 miles of the lower tributary floodplain lies within the project boundary. Abandoned channels within the Maumelle River floodplain shown on the geomorphic maps indicate the extent of lateral migration of the tributary.

During field investigations at Maumelle Public Use Area, two terrace escarpments were identified along the former banks of the Arkansas River (Figure 22). The lowest terrace escarpment occurs at elevation 260 feet msl and extends horizontally for approximately 70-90 feet over a flat terrace surface. A second higher escarpment occurs at 268 feet msl and extends for approximately 130 feet where the terrace surface meets the residual upland slope. The terrace slopes were not easily detected on the topographic map due to the large contour interval on the Pinnacle Mountain quadrangle. However, the narrow terraces do represent the remnants of former floodplains of the Arkansas River.

The Little Maumelle River enters the Arkansas River floodplain near RM 130 and the present course of the Arkansas River near RM 127. Although the lower three miles of Little Maumelle River are straightened by the influence of the Arkansas River point bar deposits, Little Maumelle River exhibits meandering characteristics in its own floodplain. The lower two miles of Little Maumelle River floodplain are veneered by up to 10 feet of Arkansas River slackwater deposits.

Figure 23 illustrates the wedge-shaped strata of Arkansas River slackwater deposits in the lower two miles of Little Maumelle River Valley. Extensive flooding of Little Maumelle River Valley by the Arkansas River has actually produced a reversal in the downvalley topographic profile of the tributary valley. During large floods on either the Arkansas River or the "drowned" tributaries, extensive backwater lakes may form behind the wedge of slackwater deposits.

The Arkansas River slackwater deposits decrease in thickness up the tributary valley of Little Maumelle River at a point referred to as the hinge line (the upstream limit of slackwater sedimentation in the tributary valley). Arkansas River slackwater deposits veneer abandoned Little Maumelle River channels and courses between the

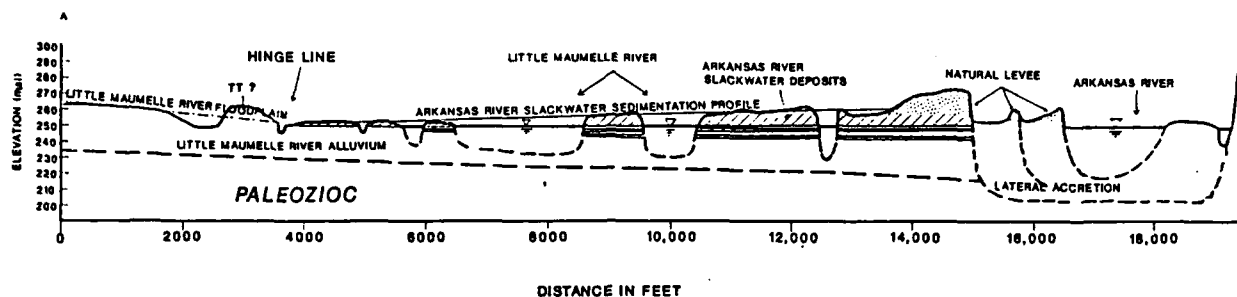


Figure 23. Arkansas River Slackwater Deposits, Little Maumelle River Valley.

tributary mouth and the hinge line. Above the hinge line, tributary features such as abandoned channels and courses may be observed more clearly where slackwater deposits from Arkansas River floods do not occur.

Archeological Investigations

Investigations conducted at the time of ARNS construction examined the location of Lock and Dam 7 which, at the time of investigation was so far along in construction that "no indications of aboriginal remains were found even though the terrain is high and well drained and seemed suitable" (Scholtz and Hoffman 1968: 13).

The adjacent proposed public use area was examined at that time with negative results. Other public use areas examined, all with negative results, included the Maumelle Public Use Area, the Palarm Creek Public Use Area, and the White City Church Public Use Area.

Archeological investigations within the Maumelle River Reach during this effort included the examination of Survey Units 6, 6a, and 7.

Survey Unit 6 includes portions of the active floodplain of Palarm Creek and small areas of adjacent Arkansas River point bar and uplands.

Vertical accretion from the Arkansas River has partially covered the alluvium from Palarm Creek at its mouth. The Arkansas River channel has not been any further west of the modern cutbank in historic times. Stable surfaces associated with the Palarm Creek valley are present but buried.

At the time of survey much of the area was being used for agricultural purposes, including both pasture and cultivation (Figure 24). The area was examined using transects set at 25 to 50m intervals across the Arkansas River point bar deposits and along the natural levees of Palarm Creek. A few random transects, oriented north to south, were examined across the Palarm Creek floodplain. What appeared to be severe erosion was examined in several fields presently in pasture.

Two sites (3PU315 and 3PU316) were recorded in Survey Unit 6.

Survey Unit 6a contains at least three nested prehistoric abandoned Arkansas River channels and was predicted to have an extensive archeological record. The earliest of these channels cut into a late Pleistocene Arkansas River terrace. The terrace is about 20 feet higher than the modern floodplain. The Arkansas River is presently rather straight and narrow in this area and historic vertical accretion is thought to be confined to the immediate areas of the modern channel.



Figure 24. Area Under Cultivation, Survey Unit 6.

Currently the area is in intensive agricultural use with most of it in pasture and cultivation (Figure 25). A few wooded areas remain. The area was heavily impacted by levee construction with accompanying borrow pit excavations. The area was examined using transects set at 25 to 50m intervals with special attention given to the natural levee and point bar ridges.

Sites recorded in Survey Unit 6a include 3FA95, 3FA96, 3FA97, 3FA98, 3FA99, 3FA100, 3FA101, and 3FA102.



Figure 25. Area Under Cultivation, Survey Unit 6a.



Figure 26. Area Under Cultivation, Study Unit 7.

Survey Unit 7 is composed of large amounts of the floodplain of the Maumelle River on the west along with areas of Arkansas River point bar deposits covered by shallow amounts of natural levee on both the east and west banks of the Arkansas River.

At the time of survey, a good portion of the Maumelle River floodplain was in either pasture or cultivation (Figure 26). Some areas of heavy vegetation still exist along the drainage areas. Transects set at 25m intervals were walked across the floodplain. Elsewhere, transects were placed to examine the natural levees.

Sites recorded in Survey Unit 7 include 3PU317, 3PU318, 3PU319, and 3PU320. Site 3PU192 was revisited.

The Documented Archeological Record

The documented archeological record contains clusters of sites at two locations. These are in the general vicinities of the confluence of Palarm Creek with the Arkansas River and the confluence of the Little Maumelle and Maumelle River with the Arkansas River. Two sites, both prehistoric, were located along the present and an abandoned channel of Palarm Creek; 3PU315 and 3PU316. Just north of the area an extensive scatter of prehistoric materials was documented along the natural levee crests associated with abandoned Arkansas River Channels. These were recorded as sites 3FA95 through 3FA101.

Prehistoric materials were found over the area from just north of Natural Steps to the confluence of the Maumelle and Arkansas rivers. This included materials within the floodplain of the Little Maumelle and Maumelle rivers as well as the uplands and natural levee deposits adjacent to the Arkansas River.

Areas of Probable Site Occurrence

As in the Petit Jean Reach, areas of high probability of site occurrence are located adjacent to abandoned channels and alluvial valleys in the major tributary valleys (Palarm Creek, Fourche La Fave River, Maumelle River, and Little Maumelle River). An abandoned course of Palarm Creek is delineated on the geomorphic maps and is an area highly probable of containing prehistoric sites. Slackwater deposits over Palarm Creek alluvium were observed in field investigations.

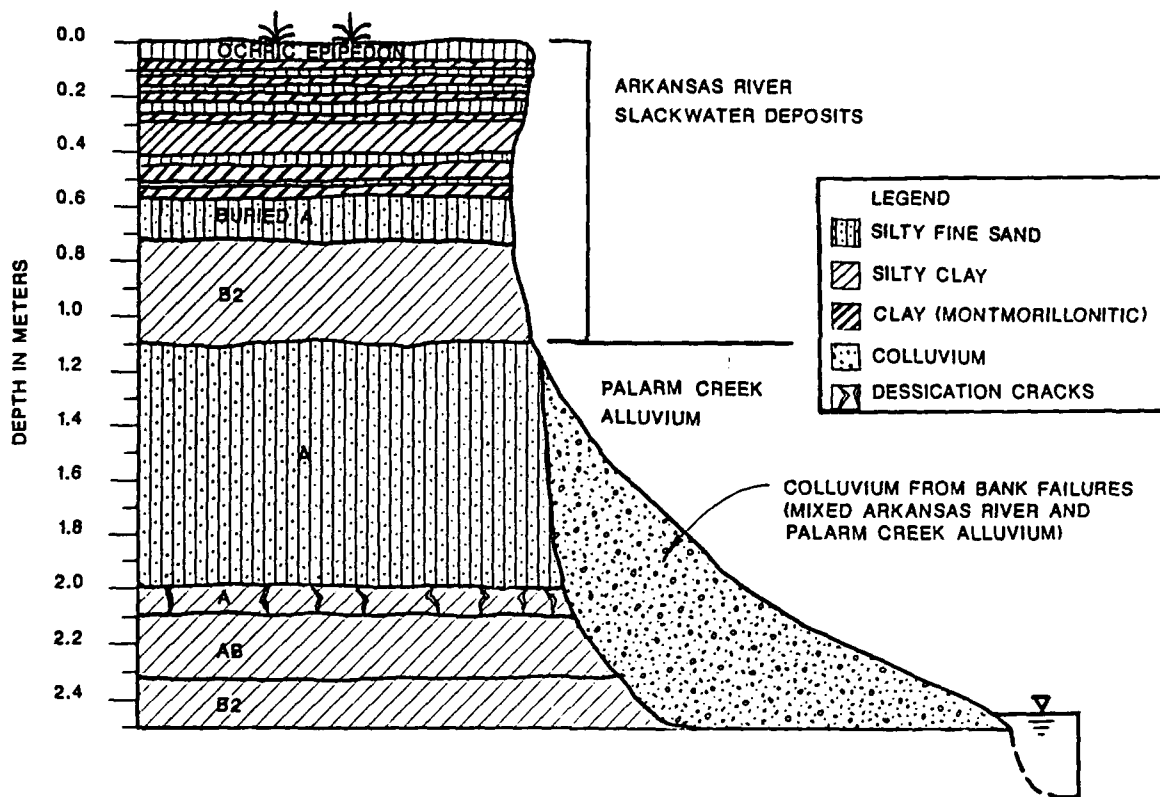


Figure 27. Arkansas River Slackwater Deposits, Palarm Creek Valley.

In Figure 27, 110cm of thinly bedded montmorillinitic (expandable) clays deposited by Arkansas River backwater flooding in the lower Palarm Creek are shown capping Palarm Creek alluvium. A lens of silty fine sand deposited on the distal flank of an Arkansas River natural levee lies between the Palarm Creek and Arkansas River alluvial strata. A buried solum, formed in the Arkansas River natural levee and extending into the underlying Palarm Creek alluvium was noted in the section. The top of the buried soil is an excellent surface to expect to find buried prehistoric cultural materials.

Former Arkansas River banks may be considered to have a high probability of containing archeological sites. Three areas of former Arkansas River cutbanks are defined in the Maumelle River Reach; 1) an area south of Easterwood near RM 147 (Plate 11), 2) the floodplain of Maumelle River near RM 130 (Plate 12) and 3) the floodplain of White Oak Creek near RM 125 (Plate 14).

Rimswamps, areas of high resource productivity, may also be areas of probable site occurrence because of their location adjacent to stable upland surfaces. The upland slopes typically contain colluvial material between the upland surface and the rimswamp where sites may occur. Rimswamps have been mapped on the Maumelle River Reach near RM 132, 126, and 123 (Plates 13 and 14).

The Fourche Bayou Reach

Geomorphological Description

The Fourche Bayou Reach begins where the Arkansas River enters the Lower Mississippi River valley at Little Rock (Plate 17). The Fourche Bayou Reach continues south for approximately 20 miles to Brodie Bend cutoff near RM 92 (the eastern portion of Pool 6 and almost all of Pool 5). In this reach the Arkansas River floodplain is characterized by numerous abandoned channels of former Arkansas River meander belts, as well as the modern meander belt. In the Fourche Bayou Reach, the modern Arkansas River intersects several abandoned channels,



Figure 28. Bankline Profile, Survey Unit 8.

River meander cutbank. Pennington Bayou flows through an abandoned channel where it enters the project area at RM 94. Neither Fourche nor Pennington bayous have developed floodplains where they enter the modern Arkansas River.

Archeological Investigations

While it is difficult to determine from Scholtz and Hoffman (1968) exactly what areas were examined during the initial survey of the ARNS it seems likely that the Willow Beach, Wrightsville and Tar Camp public use areas and the David D. Terry Dam Site West were examined with negative results.

One area was examined within the Fourche Bayou Reach during this effort. Survey Unit 8 is located within an area which exhibits evidence of extensive channel migration. Historic era vertical accretion remains near the channel boundary. The ridge and swale topography, still well defined in the eastern section of the project area, suggests that the deposits may be as young as 1,000 years or less.

At the time of survey, much of the area was given over to cultivation with some areas of pasture. Areas examined were largely restricted to natural levees and point bars.

Local informants report numerous episodes of flooding in much of the area during recent years. Cutbank profiles indicated massive deposits of sand, silt, and clay laminae to several meters deep (Figure 28). There is also a

resulting in only portions of abandoned channel features within the project boundary. The abandoned channels usually contain small streams flowing within them that drain into the modern Arkansas River channel. Many abandoned channels in Fourche Bayou Reach are only partially filled by overbank deposits and remain as lakes along the reach. Near RM 97, Cross "Pond" is actually three abandoned channels that are partially filled with overbank deposits and drowned forming a backswamp (Plate 20). Rapid lateral migration by the Arkansas River in the Fourche Bayou Reach has resulted in approximately 85 percent of the project area being reworked during historic times and is mapped as historic accretion. A field investigation site (the southwest quarter of the northeast quarter of Section 1, Township 2 South, Range 11 West) contained historic natural levee deposits to a depth of at least 5.0 feet.

Apparently the pre-engineered Arkansas River meandered in a highly sinuous state in the Fourche Bayou Reach as evidenced by numerous abandoned channels and point bars. The Arkansas River meandered more freely on its east (left descending) bank. Westward meandering of the Arkansas River was hindered by the Prairie Terrace and Tertiary uplands.

The major tributaries of the reach are Fourche and Pennington Bayous. Fourche Bayou enters the Arkansas River at RM 103 with minimal floodplain area in the project boundary. Fourche Bayou flows through a former Arkansas

reported find of prehistoric materials in the area some 50 + years prior. The area indicated was in thick soybean fields and could not be examined at the time of survey.

No sites were recorded in Survey Unit 8.

The Documented Archeological Record

There is a large cluster of sites in the Pool 6 area at the beginning of this reach which are located on the south side of the Arkansas River near the confluence of Fourche Creek and the Arkansas River in the general area of Little Rock Port. 3PU63 is a deposit of chronologically undiagnostic prehistoric materials on the northern edge of the study area near the edge of a large mass of historic accretion deposits. While no other concentrations of sites are yet documented for this reach, sites are also recorded at various locations downstream in Pool 5. 3JE9 (probably outside the study area limits) and 3JE56 are late prehistoric sites both located on an Arkansas River Terrace. 3JE50 (Greer Mound) is likely of very late prehistoric affiliation and is located on natural levee deposits over an Arkansas River point bar. 3PU109 is located at the levee edge near Cross Pond. The other site recorded for this portion of the reach is Euro-American (3JE291).

Areas of Probable Site Occurrence

There are three areas of probable site occurrence in the Fourche Bayou Reach. The first area is located at the mouth of Fourche Creek where the tributary floodplain of Fourche Creek intersects a broad expanse of Arkansas River natural levee over point bar deposits (Plate 17). The geomorphic position of the area as a tributary/river confluence suggests that the area is one of highly probable site location. Several sites do occur in the area and substantiate the high probability.

The second area is at Georgetown Lake near RM 102-06 (Plates 17 and 19). The area is characterized by several abandoned channels with broad natural levees associated with the cutbanks and also on the inside point bar deposits. No sites have been identified in the area; however, the geomorphic position is such that would allow prehistoric sites to be preserved in the area.

The third site of probable site occurrence is in the Cross Pond area near RM 97 (Plate 20). The Arkansas River natural levee over point bar deposits are the suggested areas of site occurrence. However, at Cross Pond, these features may be buried by backswamp deposits.

Plum Bayou Reach

Geomorphological Description

The Plum Bayou Reach extends from Brodie Bend cutoff near RM 92 to Pine Bluff (Plates 22 and 23). Near Brodie Bend cutoff, the Arkansas River intersects a highly dissected Prairie Terrace on the west and marks the beginning of Bayou Meto Reach. A broad expanse of historic accretion deposits shows that the Arkansas River has migrated eastward away from the terrace. Several large natural cutoffs (cut and neck cutoffs) occur in the reach including the Brodie Bend, Hensley Bar, and Hensley Island cutoffs. Apparently, the Arkansas River has evolved from a highly sinuous stream to a relatively straight stream in historic times in the Plum Bayou Reach. Historic accretion covers approximately 90 percent of the project area with small prehistoric surfaces at Hensley Island and an area of point bar deposits immediately east of Hensley Bar cutoff. Most of these prehistoric surfaces are veneered with thick natural levee deposits. These natural levee deposits are actually several cycles (each approximately 3.0 feet thick) of natural levee lenses separated by approximately 12in of fine-grained vertical accretion deposits. Natural levee deposits extend to depths of greater than 2.30m at a site located 0.5 miles due north of Lock and Dam 5, just south of Hensley Island.

There are no major tributaries in the Plum Bayou Reach. Minor tributaries and streams in the Plum Bayou Reach typically follow abandoned Arkansas River channels intersected by the modern Arkansas River. The floodplains associated with these drainage channels are usually veneered by Arkansas River slackwater deposits.



Figure 29. Bankline Profile, Survey Unit 10.

Archeological Investigations

The only area examined during the initial survey of the ARNS within this reach was Dam Site 5. No sites were reported for that location.

During this effort an examination was conducted at the northern end of this reach in the Brodie Bend area. This was Survey Unit 10. Survey Unit 10 is situated in an area of Arkansas River point bar covered by natural levee deposits. The deposition of broad natural levee veneers point bars between the modern channel near river mile 85 and the abandoned channel.

According to older maps, ridge and swale deposits of some age lie between a 1949 abandoned cutbank and the Old River Lake channel.

At the time of survey, much of the area was in cultivation. Some pasture and pecan groves were also present. There were numerous structures along the north bank of the unit and along the eastern bank of the Arkansas River. The area was examined using transects along selected point bars at 25m intervals. Recent flooding of the area was reported by residents.

Soil profiles indicated recent deep deposits of silt and sand laminae to several meters (Figure 29).

One site, 3JE262, was recorded in Survey Unit 10.

Documented Archeological Record

The only site recorded for this reach is the Euro-American site 3JE262.

Areas of Probable Site Occurrence

The Plum Bayou Reach contains minimal amounts of prehistoric surfaces. Thick natural levee over point bar deposits occur on Hensley Island and immediately south of Hensley Island (Plate 22). On the Wright quadrangle between Hardin Lake and the modern Arkansas River channel near RM 85-82, a group of former Arkansas River banks are delineated on the geomorphic map. These cutbanks are buttressed against low angle slopes of the adjacent Arkansas River terrace. The terrace slopes are significant areas of probable site locations since the terrace has been a somewhat stable surface through time. However, the terrace slopes may be eroded to the extent of washing out any site material or the slope may simply be a colluvial slope which contains buried or translocated site material.

The Bayou Meto Reach

Geomorphological Description

The Bayou Meto Reach extends from Pine Bluff to the mouth of the Arkansas River near Rosedale, Mississippi, covering an area on at least part of seventeen 1:24,000 quadrangles (Plates 24-41). The present meander belt of the Arkansas River is well-developed with numerous abandoned channels on both sides of the channel with a floodplain approximately 5-6 miles wide. The high frequency of abandoned channels in the modern Arkansas River floodplain switches back and forth from the north bank to the south bank as the Arkansas River flows from the northwest to the mouth reflecting the regional lateral migration of the Arkansas River. From Pine Bluff to Madding (Plates 26-28) most abandoned channels occur on the south side (right descending bank) of the modern river. From Madding to Sloan Island (Plates 28-32) most abandoned channels occur on the north side as the Arkansas River flows southeastward in a highly sinuous manner. Downstream of Arkansas Post, the frequency of abandoned channels is evenly distributed for both sides of the modern Arkansas River.

During its development the Arkansas River has been highly sinuous in the Bayou Meto Reach. Currently, however, dikes, levees, and groins stabilize the naturally meandering river within a relatively straight channel. Geomorphic features along the Bayou Meto Reach indicate that the Arkansas River has meandered freely during the last several hundred years. Consequently, approximately 80 percent of the area has been reworked by historic accretion. The Bayou Meto Reach has an extensive floodplain on the east and west sides of the Arkansas River and intersects numerous historic and prehistoric abandoned channels. Many of the abandoned channels appear as lakes distributed along the Bayou Meto Reach. Broad areas of Arkansas River point bar deposits occur, some with relatively thick natural levee deposits. Many large borrow pits excavated during levee construction occur in the project area.

The geomorphic activity of the Arkansas River in the Bayou Meto Reach has been significantly influenced by the evolution of the Arkansas River Valley throughout the Holocene and very late Pleistocene geologic periods. As the Arkansas River flows out of the Ouachita Mountains into the Mississippi River Valley it flows southward along the Mississippi River Valley wall on its western margin and is bounded by a former meander belt (referred to here as the Plum Bayou meander belt) to the east. It remains constrained by these two features until it reaches Pine Bluff, where the Plum Bayou meander belt approaches the valley wall, forcing the Arkansas River to breach the old meander belt and flow in a more eastward margin. The Arkansas River turned north in a tight meander in its attempt to breach the Plum Bayou meander belt and then southward again upon completing the breach.

The Arkansas River then continues southeastward breaching two more abandoned meander belts at Madding (referred to as the "Stillwater Bayou" meander belt) and near Reydell (referred to as the "Bayou Meto" meander belt). Apparently the Arkansas River adopted the Bayou Meto meander belt as its course to its confluence with the Mississippi. Saucier (1974) has estimated the age of the former meander belts of the Arkansas River below Little Rock. According to his chronology, the Plum Bayou meander belt dates from 800 to 3,100 years before present (BP), Stillwater Bayou meander belt 4,800 to 6,200 BP, and Bayou Meto meander belt about 9,000 to 10,800 BP. In personal communication with Saucier (1988), he states that these dates are only approximate and will undoubtedly be revised as additional chronological data become available.

Where the Arkansas River has intersected its former meander belts there appears to have been little effect of the former meander belt on the geomorphic activity of the modern meander belt, except for the modern and Plum Bayou meander belts at Pine Bluff. The landforms of the old meander belts of the Arkansas River have been largely destroyed in the creation of the modern meander belt which encompasses most of the project area below Little Rock. However, a single small area of the Stillwater Bayou meander belt occurs on the Moscow quadrangle (Plate 28) at Madding.

Tributaries in the Bayou Meto Reach contribute minimal flow to the Arkansas River and have drainage patterns that are strongly influenced by the former Arkansas River courses. The principal tributaries along the Bayou Meto Reach are small local bayous which occupy large arcuate depressions of abandoned channels and courses of the Arkansas River. Tributaries in the Bayou Meto Reach include the lower section of Plum Bayou which enters the Arkansas River at Fish Point near RM 69 (Plate 24) through former meander belt No. 6. Kings Bayou



Figure 30. Bankline Profile, Survey Unit 12.

levee to various depths. The well-developed ridge and swale topography in the surrounding areas suggest a date in the Late Pleistocene to Middle Holocene periods or later.

At the time of survey, the area was largely given over to cultivation, primarily soybeans and cotton. There were a few small areas of native grass and woods. The area was also heavily impacted by levee construction and the excavation of borrow pits.

A number of "Indian Mounds" are reported for the vicinity but seem to have been destroyed. Area examination was restricted to areas of natural levee crest and visible point bar ridges.

Soil profiles revealed rather massive deposits of sand and silt laminae (Figure 30).

No new sites were recorded in Survey Unit 12. Site 3JE62 was revisited (Figure 31).

The Documented Archeological Record

The archeological record in the Bayou Meto Reach of the study area consists entirely of materials from the Late Prehistoric and Euro-American periods. A large number of Euro-American sites are plotted in the area of Pine Bluff Port but are thought to be out of the USAED,LR management area. A large number of late prehistoric sites are recorded for the vicinity of 3JE62. Most of these seem to have been destroyed by levee construction or

enters the Arkansas River at Sweden near RM 54 (Plate 29) and flows in a former course of the modern Arkansas River meander belt. Little Bayou Meto enters the Arkansas River through an abandoned channel of the modern Arkansas River meander belt south of Reydele near RM 45 (Plate 30) in a large loop of a modern channel that has since been artificially cut off. Almost no tributary floodplain occurs within the project area.

Archeological Investigations

While it cannot be determined with absolute certainty it appears that Lock and Dams 3 and 4 as well as several public use areas including Trulock, Rising Star, Little Bayou Meto, Big Bayou Meto, Morgan Point, and portions of Notrebes Bend public use areas were examined; all with negative results (Scholtz and Hoffman 1968).

Also portions of the Arkansas Post Canal were examined during the period of construction (Davis and Baker 1974).

It is also appropriate to reference extensive investigations in the vicinity of Arkansas Post and the work at the Menard Mound discussed above (Phillips, Ford, and Griffin 1951; Ford 1961).

During this effort a single parcel, Survey Unit 12, was examined. This is an extensive area of Arkansas River point bar covered with natural



Figure 31. Sherd Scatter in Bean Field, Site 3JE62.

lie outside the levee system. Both Euro-American and late prehistoric sites are clustered in the Arkansas Post area which included sites 3AR33 and 3AR47. The distribution of sites in this area, however, is very poorly known.

Areas of Probable Site Occurrence

Areas of probable pre-Euro-American site occurrence are least common in the Bayou Meto Reach compared to the upstream reaches due to the extensive lateral migration of the Arkansas River which has undoubtedly destroyed many prehistoric sites. Archeological sites in the Bayou Meto Reach possibly occur on cutbank and former Arkansas River banks such as those near RM 50, 55, 60, and 63 (Plates 27-29). Cutbanks with thick, extensive natural levee deposits adjacent to the cutbank are of particular interest in archeological site investigations and occur in the Bayou Meto Reach at RM 64 near Johnson Lake (Plate 27) and at RM 48 near Cooper Island (Plate 29). Clusters of abandoned channels and former banks in the Bayou Meto Reach are significant areas for archeological site investigations such as the area between RM 53-56 on the Cornerstone quadrangle.

The oldest surface in the Bayou Meto Reach is the small segment of Stillwater Bayou meander belt that occurs near Madding. According to Saucier's chronology, an undisturbed surface dating from 3,800 to 6,200 BP may exist below natural levee and fine grained vertical accretion deposits in this location. However, the relatively low topographic position of the area over the last 3,000 years probably makes it an area of low probability of site occurrence.

Chapter 6. Summary and Recommendations

The purpose of this study was to provide a reconnaissance level description of the landscape within the ARNS along with some consideration of how the documented archeological record is distributed across this landscape. As such it is intended to serve as a foundation for the planning and execution of future cultural resource management activities within this portion of the ARNS.

For this study to achieve its maximum utility it is important that readers understand it is the beginning, not the end, of the process of cultural resource management in the ARNS. As a beginning point it provides managers with a reasonably accurate description and location of the major landforms within the ARNS which can be mapped at a scale of 1:24,000 along with a brief discussion of the primary geomorphic processes which produced these landforms.

In the study area the character of the Arkansas River changes markedly from its path through the ridges and valleys of the Ouachita Mountains to its relatively unrestricted meandering across the Mississippi River alluvial valley. Above Little Rock, the river has been constrained within the limits of a relatively narrow valley. Consequently the Arkansas has continually reworked its floodplain within the Petit Jean and Maumelle River reaches, often destroying the archeological record contained within that landscape. Below Little Rock, the Arkansas has formed at least seven separate meander belts during the last 12,000 years. These meander belts, often tens of miles away from the previous course of the river, quite likely served as foci for pre-Euro-American and early Euro-American economic activity. In this regard it is important to keep in mind that the seven meander belts have distinctly different ages and that the landscapes they produced have not been available to all groups throughout the Holocene Period. Indeed, the modern meander belt is probably less than 1,500 years old and the activity of the Arkansas River has reworked a considerable portion of the landscape within this area in the last 160 years.

Most of the landforms in the study area that were not formed over the last 150-200 years are probably only a few thousand years old. Artifacts dating earlier than the end of the Archaic Period are rare in the documented archeological record. Even these older landforms are often veneered by historic period vertical accretion deposits. Geomorphic features which may be older than a few thousand years include terraces and upland slopes. These landforms have probably experienced surficial erosion, some of which may have been locally severe, throughout much of the Holocene Period.

The study concludes that the major activity of the Arkansas River during the last 12,000 years is lateral migration of the channel and widespread aggradation of the Arkansas River Valley with concomitant slackwater sedimentation in the lower reaches of the tributary valleys. The processes involved in this activity have been described in general terms of their significance to the preservation and destruction of various parts of the archeological record. In so doing areas where the surface manifestations of the archeological record may be most concentrated are identified as are locations where significant portions of the archeological record may be buried.

The principal areas where surface manifestations of the archeological record can be expected to be found are high, well drained natural levee deposits adjacent to abandoned channels and courses and former Arkansas River banks. Additional high probability areas are well drained surfaces (terraces, upland slopes) adjacent to backswamps and rimswamps. Future cultural resource surveys in the ARNS, as well as within the larger Arkansas River Valley, should give special attention to these types of geomorphic settings.

Significant portions of the archeological record are thought very likely to be buried under or in natural levee deposits and vertical accretion deposits on older landforms. Burial of archeological materials may also occur in colluvium at the base of upland slopes or terrace escarpments. Future field surveys should include extended subsurface examination of these landforms, with particular attention given to the existence of buried stable landform surfaces indicated by the presence of preserved paleosols.

The larger tributary valleys may hold the most complete record of prehistoric occupation in the Arkansas River Valley. Lateral accretion has apparently not been as widespread in the tributary valleys as it has on the Arkansas

River floodplain, increasing the possibility that sites may be preserved. Progressive aggradation of the Arkansas River floodplain has resulted in extensive slackwater sedimentation in the lower reaches of most of the major tributaries. Archeological sites which span the period of the Holocene may exist buried beneath slackwater deposits in the tributary valleys.

Considering these factors our study has been able to suggest several areas within the ARNS where the archeological record, both surface and subsurface, is likely to be particularly concentrated. These locations are summarized in Table 1.

Table 1. High Probability Landscapes

| Pool | Location | Landforms | Likelihood of Buried Deposits | Plate |
|---------------------------------|--|--|--------------------------------------|--------------|
| <i>Petit Jean Reach</i> | | | | |
| 9 | North of Crane Island, RM 189 | NL/APb, US, RS, Tributary Valley | Low/Moderate | 4 |
| 8 | Southwest of Morrilton, North of Willow Bend | NL, ACh, Arkansas River Cutbank, Point Remove Floodplain | Moderate | 5 |
| 8 | Cadron Creek Floodplain | AS/TU | High | 9, 10 |
| <i>The Maumelle River Reach</i> | | | | |
| 7 | Fourche La Fave Creek Floodplain | AS/TU | High | 11 |
| 7 | Northeast of Beaverdam Island | Arkansas River Cutbank, NL/APb | Moderate | 12 |
| 7 | South of Easterwood Mountain, RM 147 | Arkansas River Cutbank | Moderate | 11 |
| 7 | Palarm Creek Floodplain | AS/TU | High | 12 |
| 7 | Mouth of Maumelle River, RM 130 | Arkansas River Cutbank | Moderate | 13 |
| 7 | Maumelle River Floodplain | AS/TU | High | 13 |
| 7 | Little Maumelle River Floodplain | AS/TU | High | 13 |
| 6 | Mouth of White Oak Creek, RM 125 | Arkansas River Cutbank | Moderate | 14 |
| 7 | RM 132 | Ridge Slope | Low | 13 |
| 7 | RM 126 | Ridge Slope | Low | 14 |
| 6 | RM 123 | Ridge Slope | Low | 14 |

Table 1. High Probability Landscapes

| Pool | Location | Landforms | Likelihood of Buried Deposits | Plate |
|----------------------------|-----------------------------------|-------------------------------------|-------------------------------|-------|
| <i>Fourche Bayou Reach</i> | | | | |
| 6 | Mouth of Fourche Creek Floodplain | TU, NL/APb | High | 17 |
| 5 | Georgetown Lake, RM 102-106 | ACH, NL/APb, Arkansas River Cutbank | High | 17 |
| 5 | Cross Pond, RM 97 | ACH, NL/APb, BS | Moderate | 20 |
| <i>Plum Bayou Reach</i> | | | | |
| 5 | Hensley Island | NL/APb | Moderate | 22 |
| 4 | RM 85-82 | Arkansas River Cutbank, AT, ATe | Low | 22 |
| <i>Bayou Meto</i> | | | | |
| 3 | Johnson Lake, RM 64 | NL/APb, Arkansas River Cutbank | Low | 27 |
| 3 | RM 60 | NL/APb, Arkansas River Cutbank | Low | 28 |
| 3 | RM 55 | NL/APb, Arkansas River Cutbank | Low | 28 |
| 2 | Cooper Island, RM 50 | NL/APb, Arkansas River Cutbank | Low | 29 |

As we indicated above it is our judgment that with the completion of this study cultural resource management activities in the ARNS have reached an appropriate place from which to begin to plan and to implement further investigations. It was therefore judged appropriate that we offer a number of recommendations in regard to possible future directions.

1. We believe that future efforts aimed at the further documentation of the archeological record be undertaken at the locations cited above; some of which have already been examined. Pedestrian surveys of areas of historic period accretion to identify anything other than Euro-American aspects of the archeological record are likely to prove fruitless.

2. We strongly urge that these efforts be designed to integrate both archeological and geomorphological goals, strategies, and techniques into an overall program. Given the extreme lack of chronological data such a program might do well to place a high priority on recovering chronologically sensitive materials. We believe that, over time, a number of very positive benefits will accrue from this continued multidisciplinary approach. These include:

- The location of important local geomorphological aspects of the landscape which are not discernable at a scale of 1:24,000. An example of this complexity is the narrow group of terraces at Maumelle Park. Small scale landforms such as these will only be discernable in the field.

- A detailed history of the evolution of the landscape of the Arkansas River Valley necessary for identifying the differential availability of landscape resources.
- The identification of paleoenvironmental factors which may have substantially influenced landscape use.
- The specific location and integrity of buried cultural resources.
- The identification of areas where cultural resources have been destroyed and prediction of locations where some evidence of these resources may exist in a disturbed, yet interpretable context.
- Identification of areas where cultural resources will be destroyed in the future by natural processes and recommendations of methods for resource preservation and management or mitigation.

3. Since much of the landscape within the lower reaches of the ARNS have been created over the past few hundred years this area may well contain significant cultural deposits related to the early Euro-American and Proto-Historic settlement of the region. Discovering and defining such deposits and locations will not be an easy task. Unguided, random pedestrian survey tactics cannot be expected to yield such information efficiently.

Certainly, to be effective such efforts must make use of advanced geomorphological and archeological techniques. In this situation, however, there exists an extensive cartographic and documentary record for the last 200 or so years which will prove invaluable to investigators. It is our judgment that a program which carefully and critically integrates data from these sources with a program of archeological and geomorphological paleo-geographical reconstruction would prove most effective and rewarding.

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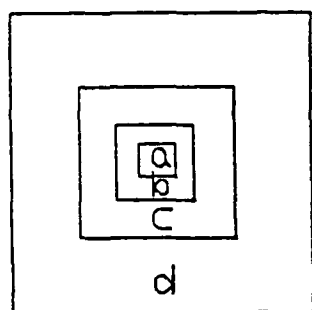
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APPENDIX I
SITE SUMMARIES

List of Abbreviations and Flake Size Chart

ach = Arkansas River abandoned
channel
apb = Arkansas River point bar
apb-nl = Arkansas River point
bar overlain by nat-
ural levee
a = absent
ang. block = angular blocky
cht = chert
ext. = exterior
ht = heat treated
int. = interior

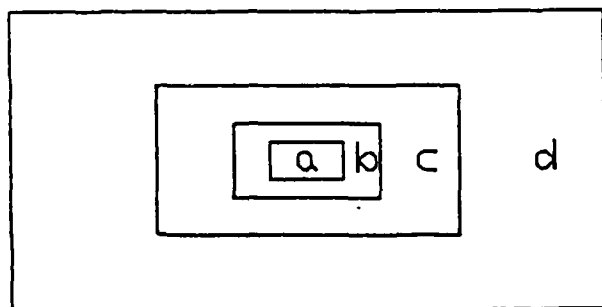
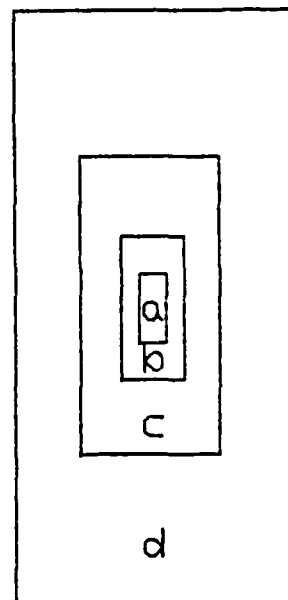
mod = modified/modification
nov = novaculite
qz = quartz
qtz = quartzite
p = present
pf = present, faceted
ps = present, stream
sst = siltstone
ST = shovel test
tu = undifferentiated
tributary floodplain
unid. = unidentified



1

2 cm

2



3

STATE NUMBER = 3FA95

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Unknown Prehistoric
Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): > 10,000
AMOUNT OF DISTURBANCE: Moderate

LANDFORM: apb-nl
INTACT DEPOSITS: unable to
estimate
QUAD SHEET: Mayflower
UTM:

DESCRIPTION: This is a very thin scatter of lithic debris in a plowed field. Materials observed included flakes, biface fragments, tested cobbles, and three projectile points. The scatter continues the length of an old natural levee, about one mile. The extent of the site was found to be 1,570 x 60m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 4 | cht | - | a | a | |
| Surface | 10 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | mod? |
| Surface | 1 | cht | - | pf | ps | |
| Surface | 1 | cht/nov | - | a | a | |
| Surface | 1 | cht/nov | - | a | a | ht w/spall |
| Surface | 2 | cht/nov | - | a | ps | |
| Surface | 1 | cht/nov | - | a | ps | mod? |
| Surface | 15 | nov | - | a | a | |
| Surface | 2 | nov | - | a | ps | |
| Surface | 4 | qz | - | a | a | |
| Surface | 2 | unid | - | a | ps | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---------------|
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | a | a | unid. dart point, broken barb |
| Surface | cht | a | a | preform, unid. biface, broken in production |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | ps | a | biface, broken in production |
| Surface | cht | a | a | unid. dart point, broken in use |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | exhausted core |
| Surface | cht | ps | | unid. biface, broken in production |
| Surface | cht | a | a | unid. biface fragment |
| Surface | cht | p | a | large chopper/axe, battered, grooves |
| Surface | cht | a | a | unid. dart point, base and midsection broken |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | nov | bk | a | unid. dart point, Ensor-like? |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | qtz | ps | a | flaked cobble |
| Surface | qtz | p | a | mano fragment |
| Surface | qtz/sst | p | a | mano fragment |
| Surface | qtz/sst | p | a | unid. groundstone, broken |
| Surface | qtz/sst | p | a | complete mano, use wear, battered |
| Surface | qtz/sst | p | a | groundstone, broken |
| Surface | qtz/sst | p | a | unid. groundstone fragment, use wear |
| Surface | qz | p | a | quartz chunk |
| Surface | qz | p | a | quartz chunk |
| Surface | qz | a | a | quartz chunk |
| Surface | qz | | a | quartz chunk |

State Number 3FA95 cont'd

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|---------------------------|
| Surface | 2 | plain whiteware fragments |
|---------|---|---------------------------|

GLASS

| | | |
|---------|---|---------------------|
| Surface | 1 | milk glass fragment |
|---------|---|---------------------|

STATE NUMBER = 3FA96

SITE TYPE: Surface scatter LANDFORM: apb
CULTURAL AFFILIATION: Woodland/Mississippian INTACT DEPOSITS: unlikely
DEPTH TO STERILE (cm): 1-10 QUAD SHEET: Mayflower
EXTENT (m²): 1000-4999 UTM:
AMOUNT OF DISTURBANCE: Moderate

DESCRIPTION: This is a surface scatter of lithic debris along a point bar ridge. One projectile point and flakes were recovered and fire-cracked rock was observed. The area has been impacted by farming. Site limits were found to be 80 x 50m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-----------|
| Surface | 1 | cht | - | a | a | |
| Surface | 1 | cht | - | a | ps | |
| Surface | 1 | cht | - | pf | a | |
| Surface | 1 | cht/nov | - | a | a | |
| Surface | 1 | cht/nov | - | a | ps | ang.block |
| Surface | 1 | cht/nov | - | pf | a | |
| Surface | 7 | nov | - | a | a | |
| Surface | 1 | nov | - | a | ps | |
| Surface | 2 | nov | - | pf | a | |
| Surface | 1 | qtz | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--------------------------------------|
| Surface | cht | a | a | unid. arrow point |
| Surface | cht/nov | ps | a | flaked cobble/core |
| Surface | nov | a | a | unid. dart point/knife?, complete |
| Surface | qtz | a | a | preform, broken in production |
| Surface | qtz | p | a | unid. groundstone fragment, mano? |

STATE NUMBER = 3FA97

SITE TYPE: Surface scatter LANDFORM: apb
CULTURAL AFFILIATION: Woodland/Mississippian INTACT DEPOSITS: likely
DEPTH TO STERILE (cm): 21-30 QUAD SHEET: Mayflower
EXTENT (m²): > 10,000 UTM:
AMOUNT OF DISTURBANCE: Moderate

DESCRIPTION: This is a scatter of prehistoric lithic debris and ceramics with some materials recovered to 25cm below ground surface. The scatter is located on a point bar ridge and the extent of the site was determined to be 225 x 100m.

EVALUATION: The eligibility of this site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that the site be evaluated for the presence of intact deposits and for potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| ST 01 | 6 | cht | - | a | a | |
| ST 01 | 1 | cht | - | a | a | ht |
| ST 01 | 24 | cht | - | a | ps | |
| ST 01 | 1 | cht/nov | - | a | ps | |
| ST 01 | 3 | nov | - | a | a | |
| ST 01 | 2 | nov | - | a | ps | |
| ST 01 | 2 | qtz | - | a | ps | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| ST 01 | cht | ps | a | exhausted core |
| ST 01 | cht | a | a | unid. biface frag |
| ST 01 | cht | ps | a | utilized flake, scraper-like modification |
| ST 01 | cht | a | p | modified flake, utilized |
| ST 01 | nov | a | a | unid. biface fragment |
| ST 01 | nov | a | a | unid. biface fragment, broken in production |

State Number 3FA97 cont'd

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--------------------------------|
| ST 01 | qtz | ps | a | utilized cobble, battered edge |
| ST 01 | qtz/sst | p | a | unid. groundstone, use wear |
| ST 01 | qtz/sst | p | a | groundstone, use wear |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|--------|-------------------|
| ST 01 | 1 | sand | unid. plain sherd |

STATE NUMBER = 3FA98

SITE TYPE: Ruins
CULTURAL AFFILIATION: Unknown Prehistoric
Historic
DEPTH TO STERILE (cm): 11-20
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: ach?apb?
INTACT DEPOSITS: unlikely
QUAD SHEET: Mayflower
UIM:

DESCRIPTION: This is a scatter of historic trash with historic materials to 20cm below ground surface. Some foundation stones were observed. Prehistoric lithic debris was also recovered. The area has been impacted by agriculture and perhaps by construction of a waste water treatment site. The extent of the site is 150 x 80m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 2 | cht | - | a | a | |
| Surface | 3 | cht | - | a | ps | |
| Surface | 1 | cht/nov | - | a | a | |
| Surface | 3 | nov | - | a | a | |
| Surface | 3 | nov | - | a | ps | |
| Surface | 1 | qtz/sst | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|----------------------------|
| Surface | nov | a | a | unid. biface base fragment |

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|---|
| CERAMICS | | |
| ST 01 | 1 | stoneware fragment, Bristol slip/salt glaze int, unglazed ext. |
| Surface | 9 | plain whiteware fragments |
| Surface | 2 | plain whiteware fragments with scalloped rim |
| Surface | 1 | whiteware fragment, floral motif |
| Surface | 1 | whiteware fragment, hand-painted floral motif |
| Surface | 2 | whiteware fragments, transfer-printed floral motif |
| Surface | 1 | whiteware fragment, green motif unclear |
| Surface | 1 | whiteware fragment, green hand-painted motif unclear |
| Surface | 1 | whiteware fragment, salt glaze, blue hand-painted band(s) |
| Surface | 1 | whiteware fragment, marked/embossed with maker's mark, mark unclear |
| Surface | 2 | stoneware fragments, salt glaze |
| Surface | 1 | stoneware fragment, Bristol slip, salt glaze |
| Surface | 5 | stoneware fragments, Albany slip int./Bristol slip ext. |
| GLASS | | |
| Surface | 7 | clear glass fragments |
| Surface | 1 | clear glass fragment, beaded |
| Surface | 1 | clear glass fragment, bevelled |
| Surface | 1 | clear glass fragment, handblown |
| Surface | 1 | clear glass fragment, rippled |
| Surface | 1 | clear glass fragment, geometric motif |
| Surface | 9 | milk glass fragments |
| Surface | 1 | milk glass fragment, marked/embossed with BOYD'S |
| Surface | 2 | blue glass fragments |
| Surface | 1 | blue glass fragment, marked/embossed, Vicks Vapo-Rub jar |
| Surface | 2 | brown glass fragments |
| Surface | 1 | aquamarine glass fragment |
| Surface | 1 | aquamarine glass fragment, handblown |
| Surface | 1 | aquamarine window glass fragment |
| Surface | 2 | amethyst glass fragments |

State Number 3FA98 cont'd

HISTORIC ARTIFACTS (continued)

| Provenience | Number | Description |
|-------------|--------|------------------------------------|
| METAL | | |
| Surface | 1 | metal spoon, broken |
| Surface | 1 | shotgun shell cap |
| Surface | 2 | metal cap fragments |
| Surface | 1 | unid. metal fragment |
| OTHER | | |
| Surface | 2 | asphalt fragments |
| Surface | 1 | insulator fragment? |
| Surface | 1 | unid. ceramic fragment |
| Surface | 1 | electrical part, ceramic and metal |

STATE NUMBER = 3FA99

SITE TYPE: Surface scatter

LANDFORM: tu

CULTURAL AFFILIATION: Unknown Prehistoric
Historic

INTACT DEPOSITS: unlikely

DEPTH TO STERILE (cm): 1-10

QUAD SHEET: Mayflower

EXTENT (m²): 1000-4999

UTM:

AMOUNT OF DISTURBANCE: Major

DESCRIPTION: This is a thin surface scatter of prehistoric lithic debris and historic trash in a plowed field. The extent of the site was found to be 100 x 25m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 1 | cht | - | a | a | |
| Surface | 10 | nov | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht/nov | a | a | unid. biface, broken |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | unid. biface, broken |
| Surface | nov | a | a | unid. dart point, broken in use |
| Surface | nov | a | a | modified flake, utilized |
| Surface | qtz/sst | p | a | broken mano, smooth surface, use wear |

State Number 3FA99 cont'd

HISTORIC ARTIFACTS

| Provenience Number | | Description |
|--------------------|---|---|
| CERAMICS | | |
| Surface | 3 | whiteware fragments, pink hand-painted motif unclear |
| OTHER | | |
| Surface | 1 | plastic fragment |

STATE NUMBER = 3FA100

SITE TYPE: Surface scatter LANDFORM: tu
CULTURAL AFFILIATION: Woodland/Mississippian INTACT DEPOSITS: unlikely
DEPTH TO STERILE (cm): 1-10 QUAD SHEET: Mayflower
EXTENT (m²): 1000-4999 UTM:
AMOUNT OF DISTURBANCE: Moderate

DESCRIPTION: This is a surface scatter of prehistoric lithic debris with one sand-tempered ceramic sherd recovered. It is located near the junction of a tributary floodplain and an old Arkansas River channel. The site extent was determined to be 70 x 40m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|---------------|
| Surface | 9 | cht | - | a | a | |
| Surface | 1 | cht | - | a | a | ht |
| Surface | 14 | cht | - | a | ps | |
| Surface | 1 | cht | - | pf | ps | |
| Surface | 1 | cht/nov | - | a | ps | |
| Surface | 6 | nov | - | a | a | |
| Surface | 1 | nov | - | a | a | block shatter |
| Surface | 2 | nov | - | a | ps | |
| Surface | 1 | qtz/sst | - | a | a | |
| Surface | 1 | qz | - | a | a | blocky |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | modified flake, scraper-like modification |
| Surface | cht | a | a | corner-notched arrow point, serrated, broken, Rockwall? |

State Number 3FA100 cont'd

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht/nov | a | a | utilized flake, scraper-like modification |
| Surface | qtz/sst | ps | a | small mano, broken, use wear |
| Surface | qtz/sst | ps | a | flaked cobble |
| Surface | qtz/sst | p | a | flaked chunk |
| Surface | qtz/sst | p | a | complete mano |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|--------|-------------------|
| Surface | 1 | sand | unid. plain sherd |

STATE NUMBER = 3FA101

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Woodland/
Mississippian
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): > 10,000
AMOUNT OF DISTURBANCE: Moderate

LANDFORM: apb
INTACT DEPOSITS: unlikely
QUAD SHEET: Mayflower
UIM:

DESCRIPTION: This is a surface scatter of prehistoric lithic debris and sand-tempered ceramics. The site is located on a prominent knoll and the area has been planted in soybeans. The site limits were observed to be 250 x 100m.

EVALUATION: The eligibility of this site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that the site be evaluated for the presence of intact deposits and for potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|----------|
| Surface | 6 | cht | - | a | a | |
| Surface | 16 | cht | - | a | ps | |
| Surface | 2 | cht | - | a | ps | ht |
| Surface | 1 | cht | - | a | ps | modified |
| Surface | 3 | cht/nov | - | a | a | |
| Surface | 12 | cht/nov | - | a | ps | |
| Surface | 5 | nov | - | a | a | |
| Surface | 1 | nov | - | a | a | ht? |
| Surface | 5 | nov | - | a | ps | |
| Surface | 1 | nov | - | pf | a | |
| Surface | 5 | qtz | - | a | a | |
| Surface | 2 | qtz/sst | - | a | a | |
| Surface | 1 | qtz/sst | - | a | ps | |
| Surface | 12 | qz | - | a | a | |
| Surface | 1 | qz | - | a | a | crystal |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | a | a | unid. biface, point base broken in use |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | a | p | flake, scraper-like modification, heat spall |
| Surface | cht | a | a | unid. biface fragment |
| Surface | cht | a | p | unid. dart point, broken tip, heat treated |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | bifacially flaked cobble, broken in production |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | flaked cobble, unifacially modified, not utilized |
| Surface | cht | ps | a | preform, broken in production |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | unid. biface |
| Surface | cht | a | a | unid. biface, broken |
| Surface | cht | ps | a | flaked cobble, scraper-like modification, little/no use |
| Surface | cht | ps | a | bifacially worked cobble |
| Surface | cht | ps | a | bifacially worked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | unid. biface, broken |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | ps | a | flaked cobble, broken |
| Surface | cht | ps | a | flaked cobble, scraper-like modification |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | flaked cobble |

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | ps | a | flaked cobble with quartz inclusions |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht/nov | a | a | unid. biface fragment |
| Surface | cht/nov | p | ? | utilized flake, scraper-like modification |
| Surface | cht/nov | ps | a | utilized flake, scraper-like modification |
| Surface | cht/nov | a | a | unid. biface fragment, broken in production |
| Surface | cht/nov | ps | a | flaked cobble |
| Surface | cht/nov | ps | a | flaked cobble |
| Surface | cht/nov | ps | a | flaked cobble |
| Surface | cht/nov | a | a | unid. biface, broken |
| Surface | cht/nov | ps | a | unid. biface, broken, scraper-like modification |
| Surface | cht/nov | ps | a | flaked cobble, scraper-like modification |
| Surface | cht/nov | ps | a | flaked cobble |
| Surface | cht/nov | ps | a | bifacially flaked cobble |
| Surface | cht/nov | ps | a | utilized flake, scraper-like modification |
| Surface | cht/nov | ps | a | utilized flake, scraper-like modification |
| Surface | cht/nov | ps | a | flaked cobble |
| Surface | nov | a | a | unid. point, broken in use |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | unid. biface fragment, broken in production |
| Surface | nov | a | a | unid. biface fragment, broken in use |
| Surface | nov | a | a | utilized biface, broken, scraper-like modification |
| Surface | nov | ps | a | flaked cobble |
| Surface | nov | ps | a | bifacially flaked cobble, scraper-like modification |
| Surface | nov | a | a | exhausted core |
| Surface | nov | a | a | utilized flake, scraper-like modification |

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | nov | a | a | unid. utilized biface, broken, scraper-like modification |
| Surface | qtz | ps | a | flaked cobble |
| Surface | qtz | ps | a | flaked cobble |
| Surface | qtz | ps | a | utilized flaked cobble, modified |
| Surface | qtz | ps | a | hammerstone?, battered edge |
| Surface | qtz | ps | a | hammerstone?, battered edge |
| Surface | qtz/sst | p | a | large flaked cobble, broken |
| Surface | qtz/sst | p | a | unid. utilized groundstone slab |
| Surface | qtz/sst | p | a | large rounded flaked groundstone, broken |
| Surface | qtz/sst | p | a | hammerstone |
| Surface | qz | a | a | quartz chunk |
| Surface | qz | a | a | flaked chunk |
| Surface | qz | ps | a | flaked cobble |
| Surface | qz | | | chunk |
| Surface | qz | ps | a | flaked cobble |
| Surface | sst | p | a | unid. groundstone fragment, use? |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|--------------------------------------|--------------------|
| Surface | 34 | sand, silt, and unid. groundstone | unid. plain sherds |

STATE NUMBER = 3FA102

SITE TYPE: Isolated find
CULTURAL AFFILIATION: Unknown Prehistoric
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1 - 9
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: none
QUAD SHEET: Mayflower
UIM:

DESCRIPTION: This is a bit of a celt or axe and tested cobble found approximately 100 feet apart at the edge of a large borrow pit.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | ps | a | flaked cobble |
| Surface | qtz | p | a | unid. groundstone fragment, axe?, use wear |

STATE NUMBER = 3JE062

SITE TYPE: Subsurface deposit
CULTURAL AFFILIATION: Mississippian
Historic

LANDFORM: apb-nl
INTACT DEPOSITS: likely

DEPTH TO STERILE (cm): Unknown

QUAD SHEET: Wright

EXTENT (m²): > 10,000

UTM:

AMOUNT OF DISTURBANCE: Moderate

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 8 | cht | - | a | a | |
| Surface | 1 | cht | - | a | a | ht w/spall |
| Surface | 14 | cht | - | a | ps | |
| Surface | 1 | cht/nov | - | a | a | |
| Surface | 7 | cht/nov | - | a | ps | |
| Surface | 14 | nov | - | a | a | |
| Surface | 5 | nov | - | a | ps | |
| Surface | 1 | nov | - | a | ps | ht |
| Surface | 7 | qz | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---------------------------------------|
| Surface | cht | ps | | flaked cobble |
| Surface | cht | ps | | flaked cobble |
| Surface | cht | ps | | modified flake, utilized, use wear |
| Surface | cht | ps | | modified flake, utilized, use wear |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | ps | a | flaked cobble fragment |
| Surface | cht/nov | ps | a | flaked cobble |
| Surface | nov | a | a | modified flake, utilized, use wear |
| Surface | qtz | ps | a | flaked cobble |
| Surface | qtz | ps | a | preform, broken in production |
| Surface | qtz/sst | p | a | unid. groundstone fragment |
| Surface | qz | ps | a | flaked cobble, broken |
| Surface | qz | ps | a | flaked cobble |
| Surface | unid | p | a | unid. groundstone, pestle?, broken |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|----------------------------------|--------------------|
| ST 01 | 3 | sand, silt | unid. plain sherds |
| Surface | 43 | sand | unid. plain sherds |
| Surface | 141 | sand, silt | unid. plain sherds |
| Surface | 65 | sand, unid. groundstone | unid. plain sherds |
| Surface | 108 | sand, silt, unid. groundstone | unid. plain sherds |

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|----|--|
| ST 01 | 1 | plain whiteware fragment |
| Surface | 11 | plain whiteware fragments |
| Surface | 1 | stoneware fragment, Albany slip |
| Surface | 2 | stoneware fragments, Albany slip int./Bristol slip ext. with salt glaze on both sides |

GLASS

| | | |
|---------|---|-------------------------|
| ST 01 | 2 | clear glass fragments |
| Surface | 3 | clear glass fragments |
| Surface | 1 | milk glass fragment |
| Surface | 1 | amethyst glass fragment |

METAL

| | | |
|---------|---|----------------------|
| Surface | 1 | iron hook |
| Surface | 1 | iron nail, bent |
| Surface | 1 | unid. iron fragment |
| Surface | 1 | unid. metal fragment |

OTHER

| | | |
|---------|---|-----------------|
| Surface | 3 | brick fragments |
|---------|---|-----------------|

STATE NUMBER = 3JE262

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 100 - 499
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: unlikely
QUAD SHEET: Wright
UIM:

DESCRIPTION: This is a surface scatter of historic materials located at the edge of a soybean field. One shovel test was performed and it proved to be positive with a whiteware sherd found to 10cm below surface. The extent of the site was observed to be 40 x 10m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|--|
| CERAMICS | | |
| ST 01 | 1 | plain whiteware fragment |
| Surface | 4 | plain whiteware fragments |
| Surface | 2 | whiteware fragments, red transfer-printed floral motif |
| Surface | 1 | stoneware fragment, Albany slip int./Bristol slip ext. with salt glaze on both sides |
| GLASS | | |
| Surface | 2 | clear glass fragments |
| Surface | 1 | clear glass fragment, handblown |
| Surface | 4 | clear window glass fragments |
| Surface | 1 | amethyst glass fragment, marked/embossed with ... C AND |
| METAL | | |
| Surface | 1 | large metal ring |
| OTHER | | |
| Surface | 1 | square brick fragment |

STATE NUMBER = 3PP77

SITE TYPE: Subsurface deposit
CULTURAL AFFILIATION: Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: unlikely
QUAD SHEET: Atkins
UTM:

DESCRIPTION: This is a scatter of historic materials in a plowed field. The area has been impacted severely by farming. The extent of the site was determined to be 100 x 30m. This is within the site limits of 3PP77.

EVALUATION: The site, in itself, is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: The exact nature of the archeological record at 3PP77 needs to be determined.

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|--|
| CERAMICS | | |
| ST 01 | 6 | plain whiteware fragments |
| ST 01 | 1 | stoneware fragment, gray slip int./Bristol slip ext. with salt glaze on both sides |
| ST 01 | 3 | stoneware fragments, Albany slip, salt glaze on both sides |
| ST 01 | 1 | stoneware fragment, Albany slip int./Bristol slip ext. with salt glaze on both sides |
| GLASS | | |
| ST 01 | 3 | clear glass fragments, handblown |
| ST 01 | 3 | clear window glass fragments |
| ST 01 | 2 | aquamarine glass fragments, handblown |
| ST 01 | 1 | aquamarine glass fragment, marked/embossed with ... DR ..., handblown |
| ST 01 | 3 | amethyst glass fragments, handblown |
| METAL | | |
| ST 01 | 1 | unid. metal plate-like fragment |

State Number 3PP77 cont'd

HISTORIC ARTIFACTS (continued)

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

OTHER

| | | |
|-------|---|-----------------------|
| ST 01 | 1 | gray brick fragment |
| ST 01 | 1 | orange brick fragment |

STATE NUMBER = 3PP271

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: unlikely
QUAD SHEET: Atkins
UTM:

DESCRIPTION: This is a surface scatter of historic trash consisting of ceramic and glass fragments. It has been impacted by farming. This may be part of Galla Rock. The extent of the site is 40 x 30 m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

STATE NUMBER = 3PP272

SITE TYPE: Subsurface deposit
CULTURAL AFFILIATION: Woodland/
Mississippian

DEPTH TO STERILE (cm): 31-50
EXTENT (m²): 500 - 999
AMOUNT OF DISTURBANCE: Unknown

LANDFORM: apb-nl
INTACT DEPOSITS: unable to
estimate
QUAD SHEET: Atkins
UIM:

DESCRIPTION: This is a scatter of prehistoric debris with materials possibly to 30cm+ below ground surface. Charcoal observed below the plowzone may indicate intact deposits. Shell-tempered pot sherds, chert flakes, and a chert projectile point/knife were recovered. Presently the site area is in cultivation but this may be fairly recent. The extent of the site was determined to be 20 x 30m.

EVALUATION: The eligibility for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that this site be evaluated for the presence of intact deposits and for potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 8 | cht | - | a | a | |
| Surface | 39 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | ht |
| Surface | 3 | cht/nov | - | a | a | |
| Surface | 9 | cht/nov | - | a | ps | |
| Surface | 2 | nov | - | a | a | |
| Surface | 3 | nov | - | a | ps | |
| Surface | 2 | unid | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | ps | a | modified flake, utilized, scraper-like modification |
| Surface | cht | ps | a | modified flake, utilized, scraper-like modification |
| Surface | cht | ps | a | modified flake, utilized, scraper-like modification |

State Number 3PP272 cont'd

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | a | a | utilized flake, scraper-like modification |
| Surface | cht | a | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | unifacially modified flake, preform, broken in production |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | ps | a | exhausted core |
| Surface | cht/nov | a | a | unid. biface, knife?, broken in production |
| Surface | nov | ps | a | utilized flake, scraper-like modification |
| Surface | qtz | p | a | groundstone, utilized, battered edge |
| Surface | qtz | ps | p | utilized flaked cobble fragment, scraper modification, heat spalls |
| Surface | qtz | ps | a | flaked chunk |
| Surface | qz | ps | a | flaked cobble |
| Surface | qz/qtz | ps | a | flaked cobble |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|-----------------------------------|--------------------|
| Surface | 32 | sand, silt | unid. plain sherds |
| Surface | 1 | sand, silt, and unid. groundstone | unid. plain sherd |

STATE NUMBER = 3PP274

SITE TYPE: Subsurface deposit
 CULTURAL AFFILIATION: Unknown Prehistoric
 Historic
 DEPTH TO STERILE (cm): 31-50
 EXTENT (m²): > 10,000
 AMOUNT OF DISTURBANCE: Unknown

LANDFORM: apb
 INTACT DEPOSITS: likely
 QUAD SHEET: Atkins
 UTM:

DESCRIPTION: This is an extensive but thin scatter of prehistoric lithic debris. The site has been impacted by unauthorized collections for some time. Materials were recovered to 40cm below ground surface. The extent of the site was determined to be 400 x 300m.

EVALUATION: The eligibility for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that this site be evaluated for the presence of intact deposits and for potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 9 | cht | - | a | a | |
| Surface | 1 | cht | - | a | a | block shft |
| Surface | 1 | cht | - | a | a | ht |
| Surface | 16 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | ht w/spall |
| Surface | 3 | nov | - | a | a | |
| Surface | 1 | unid | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|-------------------------------|
| ST 1 | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked chunk |
| Surface | cht | ps | a | utilized flake, modified edge |
| Surface | cht | ps | a | flaked cobble |

State Number 3PP274 cont'd

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|------------------------------------|
| Surface | cht | ps | a | preform, broken |
| Surface | cht | ps | a | flaked cobble, broken |
| Surface | nov | a | a | unid. biface, broken in production |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|--------|-------------------|
| Surface | 1 | sand | unid. plain sherd |

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|---|
| Surface | 3 | plain whiteware fragments |
| Surface | 1 | whiteware fragment, hand-painted floral motif, hand-painted band(s) |
| Surface | 1 | stoneware fragment, gray slip, salt glaze |

GLASS

| | | |
|---------|---|----------------------------|
| Surface | 1 | milk glass fragment |
| Surface | 1 | olive-green glass fragment |

OTHER

| | | |
|---------|---|--------------------------|
| Surface | 5 | pieces of plastic/vinyl? |
|---------|---|--------------------------|

STATE NUMBER = 3PU192

SITE TYPE: Subsurface deposit
CULTURAL AFFILIATION: Unknown Prehistoric
Historic
DEPTH TO STERILE (cm): 21-30
EXTENT (m²): > 10,000
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: unable
to estimate
QUAD SHEET: Pinnacle
Mountain
UTM:

DESCRIPTION: This is a scatter of historic and prehistoric debris. Historic materials were recovered to 28cm below ground surface. The site was previously recorded as 3PU192. The site is presently under cultivation. The extent of the historic scatter is 60 x 30 and the extent of the prehistoric scatter is 250 x 30m with the total extent of the site being 310 x 30m.

EVALUATION: The eligibility of this site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: Further work is recommended to determine the presence of intact deposits and for potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 1 | cht | - | a | a | water worn |
| Surface | 1 | cht | - | a | ps | |
| Surface | 1 | cht | - | pf | ps | |
| Surface | 5 | qz | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---------------------------------------|
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | ps | a | modified flake |
| Surface | cht/nov | ps | a | flaked cobble, modified, use wear |
| Surface | nov | a | p | unid. biface fragment, ht |
| Surface | qz | p | a | core fragment |
| Surface | unid | p | a | large hammerstone, battered, use wear |

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|-------------------------|
| Surface | unid | a | a | core with modified edge |

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|--|
| ST 01 | 2 | plain whiteware fragments |
| Surface | 1 | whiteware fragment, floral motif |
| Surface | 3 | whiteware fragments, geometric motif |
| Surface | 1 | whiteware fragment, band(s) with design also |
| Surface | 1 | whiteware fragment, hand-painted floral motif |
| Surface | 1 | whiteware fragment, hand-painted band(s) |
| Surface | 1 | whiteware fragment, transfer-printed floral motif |
| Surface | 1 | whiteware fragment, transfer-printed scenic motif |
| Surface | 1 | whiteware fragment, transfer-printed motif unclear |
| Surface | 5 | whiteware fragments, flow blue motif unclear |
| Surface | 1 | whiteware fragment, flow blue motif unclear with stamped decoration |
| Surface | 2 | whiteware fragments, flow blue motif unclear, floral motif |
| Surface | 1 | whiteware fragment, blue floral motif |
| Surface | 1 | whiteware fragment, blue band(s) |
| Surface | 1 | whiteware fragment, blue motif unclear |
| Surface | 4 | whiteware fragments, blue hand-painted floral motif |
| Surface | 6 | whiteware fragments, blue hand-painted motif unclear |
| Surface | 6 | whiteware fragments, blue relief-edged motif unclear, feather-edged |
| Surface | 2 | whiteware fragments, blue relief-edged motif unclear, feather-edged, scalloped rim |
| Surface | 1 | whiteware fragment, blue relief-edged motif unclear, scalloped rim |
| Surface | 1 | whiteware fragment, black band(s) |
| Surface | 1 | whiteware fragment, black relief-edged motif unclear, feather-edged |

State Number 3PU192 cont'd

HISTORIC ARTIFACTS (continued)

| Provenience | Number | Description |
|-------------------|--------|--|
| CERAMICS (cont'd) | | |
| Surface | 3 | whiteware fragments, black transfer-printed floral motif |
| Surface | 2 | whiteware fragments, black transfer-printed motif unclear |
| Surface | 1 | whiteware fragment, green floral motif |
| Surface | 1 | whiteware fragment, green transfer-printed floral motif |
| Surface | 1 | whiteware fragment, green transfer-printed motif unclear |
| Surface | 1 | stoneware fragment, unglazed int./Bristol slip ext. |
| Surface | 2 | stoneware fragments, Bristol slip with salt glaze over Bristol |
| GLASS | | |
| ST 01 | 1 | clear glass fragment |
| ST 01 | 1 | olive-green glass fragment |
| Surface | 1 | blue glass fragment, handblown |
| Surface | 2 | olive-green glass fragments |
| Surface | 1 | black glass fragment |
| METAL | | |
| ST 01 | 1 | metal ring |
| OTHER | | |
| ST 01 | 1 | brick fragment |

STATE NUMBER = 3PU315

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Archaic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: tu
INTACT DEPOSITS: unlikely
QUAD SHEET: Mayflower
UTM:

DESCRIPTION: This is a surface scatter of prehistoric lithic debris located on the escarpment of an old channel bank. Materials observed included flakes, hammerstones, mano fragments, and bone fragments. The site has been heavily impacted by the construction of irrigation ditches. The extent of the site was observed to be 30 x 50m.

EVALUATION: The eligibility for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that this site be evaluated for the presence of chronological materials and for potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 1 | cht | - | a | a | |
| Surface | 2 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | ht spalls |
| Surface | 1 | cht/nov | - | a | ps | |
| Surface | 1 | nov | - | a | a | |
| Surface | 1 | qtz | - | a | ps | |
| Surface | 1 | qz | - | a | a | ang. block |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | a | a | unid. biface, broken, knife? |
| Surface | cht | p | a | biface broken in production |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | ps | a | bifacially modified flake, scraper-like modification |
| Surface | nov | ps | a | unid. biface, broken |

State Number 3PU315 cont'd

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--------------------------------------|
| Surface | qtz/sst | p | a | broken hammerstone, battered edge |
| Surface | qtz/sst | p | a | mano fragment |
| Surface | qz | ps | a | complete hammerstone, use wear |

STATE NUMBER = 3PU316

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Unknown Prehistoric
Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 100 - 499
AMOUNT OF DISTURBANCE: Moderate

LANDFORM: tu
INTACT DEPOSITS: unlikely
QUAD SHEET: Mayflower
UTM:

DESCRIPTION: This is a small surface scatter of lithic materials consisting of flakes, a biface fragment, and fire-cracked rock. The area has been impacted by farming. Site limits were observed to be 10 x 10m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-----------|
| Surface | 4 | cht | - | a | a | |
| Surface | 4 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | ht spalls |
| Surface | 6 | nov | - | a | a | |
| Surface | 2 | qz | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | ps | a | flake, spoke-shave modification |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | qz | a | a | quartz chunk |

State Number 3PU316 cont'd

HISTORIC ARTIFACTS

| Provenience Number | | Description |
|--------------------|---|--|
| CERAMICS | | |
| Surface | 1 | stoneware fragment, Bristol slip int./Albany slip ext. |
| Surface | 1 | stoneware fragment, Albany slip |

STATE NUMBER = 3PU317

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Unknown Prehistoric
DEPTH TO STERILE (cm): 1-10

LANDFORM: tu
INTACT DEPOSITS: none
QUAD SHEET: Pinnacle
Mountain

EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Moderate

UTM:

DESCRIPTION: This is a surface scatter of prehistoric lithic debris located in an area planted in soybeans. The extent of the site was observed to be 60 x 40m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 1 | cht | - | a | ps | |
| Surface | 1 | nov | - | a | a | |
| Surface | 1 | qz | - | a | a | |
| Surface | 1 | unid | - | a | ps | ht? |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | ps | a | modified flake, utilized |
| Surface | cht/nov | a | a | bifacially modified flake, scraper-like modification |
| Surface | nov | a | a | flake, scraper-like modification |
| Surface | qz | p | a | chunk |

STATE NUMBER = 3PU318

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Unknown Prehistoric
Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: tu
INTACT DEPOSITS: unable
to estimate
QUAD SHEET: Pinnacle
Mountain
UTM:

DESCRIPTION: This is a surface scatter of historic materials and a few flint flakes. Historic materials are likely over 100 years old. Possible foundation stones were observed. This site may be located on State Park land. The site limits were observed to be 75 x 30m.

EVALUATION: The eligibility of this site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that the site be further evaluated to determine the site age and function.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 1 | cht | - | p | ps | |
| Surface | 1 | nov | - | a | a | |
| Surface | 1 | qtz | - | a | a | |
| Surface | 1 | qz | - | a | a | |
| Surface | 1 | qz | - | a | ps | |

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|---|
| Surface | 4 | plain whiteware fragments |
| Surface | 1 | whiteware fragment, hand-painted floral motif |
| Surface | 1 | whiteware fragment, blue hand-painted floral motif |
| Surface | 3 | whiteware fragments, blue relief-edged motif unclear, feather-edged |
| Surface | 1 | whiteware fragment, green band(s) |
| Surface | 1 | whiteware fragment, blue & red polychrome band(s) |

State Number 3PU318 cont'd

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------------|--------|--|
| CERAMICS (cont'd) | | |
| Surface | 2 | stoneware fragments, Albany slip |
| Surface | 4 | stoneware fragments, Albany slip int./Bristol slip ext. |
| Surface | 1 | porcelain figurine fragment, polychrome |
| GLASS | | |
| Surface | 1 | clear glass fragment, handblown |
| Surface | 1 | aquamarine glass fragment, handblown |
| Surface | 1 | aquamarine glass fragment, marked/embossed, embossing unreadable |
| Surface | 1 | amethyst glass fragment |
| Surface | 1 | frosted glass fragment |
| METAL | | |
| Surface | 1 | square nail |
| Surface | 1 | square nail, broken |
| Surface | 1 | unid. metal hinge |
| OTHER | | |
| Surface | 1 | white button with threading holes |

STATE NUMBER = 3PU319

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Unknown Prehistoric
Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): > 10,000
AMOUNT OF DISTURBANCE: Major

LANDFORM: tu
INTACT DEPOSITS: unlikely
QUAD SHEET: Pinnacle
Mountain
UTM:

DESCRIPTION: This is a surface scatter of historic and prehistoric materials with two distinct areas of concentration located approximately 60m apart. The site is currently under cultivation. The extent of concentration A is 80 x 40m and concentration B is 75 x 60m in extent. Together this site is 225 x 60m in extent.

EVALUATION: The eligibility of this site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that the site be further evaluated to gather chronological data and to determine the potential for nomination to the National Register of Historic Places.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 2 | cht | - | a | a | |
| Surface | 5 | cht | - | a | ps | |
| Surface | 1 | cht | - | pf | a | |
| Surface | 5 | nov | - | a | a | |
| Surface | 1 | nov | - | a | ps | ht |
| Surface | 5 | qz | - | a | a | |
| Surface | 1 | qz | - | a | p | block shtt |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | ps | a | utilized flake, scraper-like modification |
| Surface | cht | a | a | preform, broken in production |

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | a | a | utilized flake, broken, modified |
| Surface | cht/nov | a | a | unid.biface, broken in prod. |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | modified flake, utilized, use wear |
| Surface | nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | unid. biface, broken in production |
| Surface | qtz | ps | a | flaked cobble, hammerstone/groundstone, battered |
| Surface | qtz/sst | p | a | hammerstone/abraider, battered, utilized |
| Surface | qtz/sst | p | a | groundstone/mano abraider, battered, utilized |
| Surface | qtz/sst | p | a | hammerstone/groundstone, battered, use wear |
| Surface | qtz/sst | p | a | mano, broken, use wear, grooves |
| Surface | qz | a | a | quartz chunk |
| Surface | qz | a | a | utilized flake, scraper-like modification |

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|---|
| Surface | 1 | stoneware fragment, Albany slip with salt glaze on both sides |
|---------|---|---|

STATE NUMBER = 3PU320

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Unknown Prehistoric
DEPTH TO STERILE (cm): 1-10

LANDFORM: apb
INTACT DEPOSITS: unlikely
QUAD SHEET: Pinnacle
Mountain

EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Moderate

UTM:

DESCRIPTION: This is a surface scatter of prehistoric lithic debris. At the time it was visited, the site was in thick pasture and visibility was limited. The extent of the site was observed to be 30 x 50m.

EVALUATION: The eligibility of the site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that this site be further evaluated to gather chronological information.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|------------|
| Surface | 1 | cht | - | a | a | |
| Surface | 1 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | ht w/spall |
| Surface | 1 | cht | - | pf | ps | |
| Surface | 1 | nov | - | a | a | |
| Surface | 1 | nov | - | a | ps | |

STATE NUMBER = 3YE312

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb-nl
INTACT DEPOSITS: unlikely
QUAD SHEET: Holla Bend
UTM:

DESCRIPTION: This site is a surface scatter of historic trash consisting of ceramic, metal, and glass fragments. It has been severely scattered by plowing. No subsurface deposits or features were noted. The extent of the site was determined to be 50 x 60m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|---|
| CERAMICS | | |
| Surface | 7 | plain whiteware fragments |
| Surface | 1 | whiteware fragment, motif unclear |
| Surface | 1 | whiteware fragment, red transfer-printed, motif unclear |
| Surface | 1 | whiteware fragment, yellow motif unclear |
| Surface | 1 | whiteware fragment, marked with ... EAKIN ... AND ... |
| Surface | 5 | stoneware fragments, Bristol slip/salt glaze |
| Surface | 1 | plain porcelain fragment |

GLASS

| | | |
|---------|---|--------------------------------------|
| Surface | 1 | clear glass fragment |
| Surface | 3 | clear fruit jar cap liner fragments |
| Surface | 1 | cobalt blue glass fragment |
| Surface | 2 | aquamarine glass fragments |
| Surface | 1 | aquamarine glass fragment, handblown |
| Surface | 2 | amethyst glass fragments |

METAL

| | | |
|---------|---|--------------------------|
| Surface | 1 | square iron nail, bent |
| Surface | 1 | unidentified metal clump |

STATE NUMBER = 3YE313

SITE TYPE: Surface scatter LANDFORM: apb-nl
CULTURAL AFFILIATION: Woodland/Mississippian INTACT DEPOSITS: unlikely
Historic
DEPTH TO STERILE (cm): Unknown QUAD SHEET: Holla Bend
EXTENT (m²): 500 - 999 UTM:
AMOUNT OF DISTURBANCE: Major

DESCRIPTION: This site is a small surface scatter of historic trash consisting of ceramic, metal, and glass fragments. One prehistoric sherd was collected. It has been severely impacted by plowing. No subsurface deposits or features were noted. The site limits were observed to be 20 x 40m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 5 | cht | - | a | ps | |
| Surface | 1 | unid | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|--|
| Surface | cht | ps | a | modified flake, broken, utilized |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble, edge modified, not utilized |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|--------|-------------------|
| Surface | 1 | sand | unid. plain sherd |

State Number 3YE313 cont'd

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|---|
| CERAMICS | | |
| Surface | 2 | plain whiteware fragments |
| Surface | 1 | whiteware fragment, flow blue int./pale blue ext. |
| Surface | 2 | stoneware fragments, Albany slip, salt glaze |
| GLASS | | |
| Surface | 2 | clear glass fragments |
| Surface | 1 | clear window glass fragment |
| Surface | 1 | aquamarine glass fragment, handblown |
| Surface | 2 | amethyst glass fragments |
| METAL | | |
| Surface | 1 | square iron nail |
| Surface | 2 | square iron nail fragments |

STATE NUMBER = 3YE314

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Mississippian

LANDFORM: nl
INTACT DEPOSITS: unable
to estimate

DEPTH TO STERILE (cm): Unknown
EXTENT (m²): > 10,000
AMOUNT OF DISTURBANCE: Moderate

QUAD SHEET: Holla Bend
UTM:

DESCRIPTION: This site is an extensive scatter of prehistoric lithic debris and ceramics distributed in two concentrations separated by a small gully. Some bone was also observed. Ceramics seem to show a concentration and the possibility of a house cannot be ruled out. The deposit seemed to be limited to the surface. Levee construction and farming have impacted the site. Concentration A showed an extent of 300 x 100m and concentration B showed an extent of 140 x 50m.

EVALUATION: The eligibility of this site for nomination to the National Register of Historic Places has not been determined.

RECOMMENDATIONS: It is recommended that this site be tested to determine the presence of intact deposits.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| ST 01 | 3 | cht | - | a | a | |
| ST 01 | 1 | cht | - | a | ps | |
| Surface | 7 | cht | - | a | a | |
| Surface | 1 | cht | - | a | a | ht |
| Surface | 22 | cht | - | a | ps | |
| Surface | 1 | cht | - | a | ps | ht |
| Surface | 1 | cht | - | pf | a | |
| Surface | 2 | cht/nov | - | a | ps | |
| Surface | 1 | cht/nov | - | p | a | |
| Surface | 11 | nov | - | a | a | |
| Surface | 1 | nov | - | p | a | |
| Surface | 1 | qtz/sst | - | a | ps | |
| Surface | 1 | unid | - | a | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | a | ? | flake, scraper-like modification |
| Surface | cht | a | a | flake, scraper-like modification |
| Surface | cht | a | a | flake, scraper-like modification |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | a | a | flake, scraper-like modification. |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | a | a | unid. biface fragment mid-section |
| Surface | cht | ps | a | flake, scraper-like modification |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | ps | a | flaked chunk |
| Surface | cht | ps | a | unid. biface, broken in production |
| Surface | cht | ps | a | flaked chunk |
| Surface | cht | ps | a | preform/blank |
| Surface | cht | ps | a | preform |
| Surface | cht | a | a | unid. biface, broken in production |
| Surface | cht | ps | a | unid. biface, broken in production |
| Surface | cht | ps | a | flake, broken, scraper-like modification |
| Surface | cht | ps | a | modified flake, scraper-like modification |
| Surface | cht | ps | a | biface broken in production |

State Number 3YE314 cont'd

LITHIC ARTIFACTS (continued)

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|---|
| Surface | cht | a | a | modified flake, punctate- & scraper-like modification |
| Surface | cht | a | a | drill, broken |
| Surface | cht | a | a | unid. biface fragment |
| Surface | cht | a | a | unid. biface fragment, drill? |
| Surface | cht | a | a | unid. biface, complete, knife? |
| Surface | cht | a | a | unid. biface, broken |
| Surface | cht | ps | a | preform |
| Surface | cht | ps | a | modified flake, utilized |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht | ps | a | flaked cobble |
| Surface | cht/nov | a | a | modified flake, scraper-like modification |
| Surface | cht/nov | a | a | preform, broken |
| Surface | cht/nov | a | a | utilized flake, scraper-like modification |
| Surface | nov | a | a | flake, scraper-like modification. |
| Surface | nov | a | a | flake, scraper-like modification |
| Surface | nov | a | a | preform |
| Surface | nov | a | a | exhausted core |
| Surface | nov | ps | a | unifacially modified flake |
| Surface | nov | a | a | unid. biface fragment, drill? |
| Surface | nov | a | a | unid. biface mid-section |
| Surface | qtz | ps | a | flaked cobble |
| Surface | qtz | p | a | unid. groundstone fragment |
| Surface | qtz | ps | a | flaked cobble |
| Surface | qtz/sst | p | a | unid. groundstone, broken, use wear |
| Surface | qtz/sst | p | a | unid. groundstone fragment |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|-------------|--------------------|
| Surface | 28 | sand | unid. plain sherds |
| Surface | 2 | sand, shell | unid. plain sherds |
| Surface | 2 | shell | unid. plain sherds |

State Number 3YE314 cont'd

HISTORIC ARTIFACTS

| Provenience Number | | Description |
|--------------------|---|--|
| CERAMICS | | |
| Surface | 1 | whiteware fragment, Albany slip int./Bristol slip ext. |

STATE NUMBER = 3YE315

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Mississippian
Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 5000-9999
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb-nl
INTACT DEPOSITS: unlikely
QUAD SHEET: Holla Bend
UIM:

DESCRIPTION: This site is a surface scatter of prehistoric and historic debris. The prehistoric scatter is within the historic scatter. The site has been severely damaged by farming and levee construction. The site limits were determined to be 150 x 50m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 1 | cht | - | a | a | |
| Surface | 1 | cht | - | a | a | mod |
| Surface | 1 | cht | - | a | ps | |
| Surface | 1 | cht/nov | - | a | a | |
| Surface | 1 | cht/nov | - | a | ps | |

PREHISTORIC CERAMICS

| Provenience | Number | Temper | Description |
|-------------|--------|--------|--------------------|
| Surface | 7 | sand | unid. plain sherds |

State Number 3YE315 cont'd

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|--|
| Surface | 1 | plain whiteware fragment with vertical ridges on interior |
| Surface | 3 | whiteware fragments, blue motif unclear |

GLASS

| | | |
|---------|---|--------------------------|
| Surface | 2 | amethyst glass fragments |
|---------|---|--------------------------|

STATE NUMBER = 3YE316

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: unlikely
QUAD SHEET: Holla Bend
UTM:

DESCRIPTION: This is a surface scatter of historic trash. Some ceramic items are probably 19th century. The site has been severely impacted by farming and levee construction. The extent of the site was observed to be 60 x 30m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|-------------|
|-------------|--------|-------------|

CERAMICS

| | | |
|---------|---|---|
| Surface | 1 | whiteware fragment, blue relief-decorated motif unclear, feather-edged |
| Surface | 1 | whiteware fragment, marked/embossed with green maker's mark, mark unclear |
| Surface | 1 | plain porcelain figurine fragment, legs & feet |

STATE NUMBER = 3YE317

SITE TYPE: Surface scatter LANDFORM: apb
CULTURAL AFFILIATION: Unknown Prehistoric INTACT DEPOSITS: unlikely
Historic
DEPTH TO STERILE (cm): 1-10 QUAD SHEET: Holla Bend
EXTENT (m²): 1000-4999 UTM:
AMOUNT OF DISTURBANCE: Major

DESCRIPTION: This is a surface scatter of historic and prehistoric debris. The site has been impacted by farming and levee construction. Site limits were observed to be 60 x 30m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 2 | cht | - | a | ps | |
| Surface | 1 | cht/nov | - | a | ps | |
| Surface | 1 | nov | - | a | p | |
| Surface | 1 | nov | - | a | ps | |
| Surface | 1 | nov | - | pf | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|-------------------------------|
| Surface | cht | ps | a | primary decortification flake |
| Surface | nov | a | a | unid. biface mid-section |
| Surface | qtz/sst | p | a | mano fragment |

State Number 3YE317 cont'd

HISTORIC ARTIFACTS

| Provenience | Number | Description |
|-------------|--------|--|
| CERAMICS | | |
| Surface | 5 | plain whiteware fragments |
| GLASS | | |
| Surface | 1 | clear glass fragment, molded geometric motif with criss-cross bevelled design |
| Surface | 1 | milk glass fragment |
| Surface | 1 | amethyst glass fragment, scalloping |
| METAL | | |
| Surface | 1 | iron nail fragment |

STATE NUMBER = 3YE318

SITE TYPE: Surface scatter
CULTURAL AFFILIATION: Historic
DEPTH TO STERILE (cm): 1-10
EXTENT (m²): 1000-4999
AMOUNT OF DISTURBANCE: Major

LANDFORM: apb
INTACT DEPOSITS: present
QUAD SHEET: Atkins
UTM:

DESCRIPTION: This site is the remains of a historic house or shed. It appears to be the ruins of a large (two-story?) building. Only concrete walls on the bottom are remaining. The structure was built in an artificial earthen mound about four feet above ground level. Broken fruit jars were observed on the floor. No materials were collected. The extent of the site was found to be 40 x 40m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

STATE NUMBER = 3YE319

SITE TYPE: Surface scatter

CULTURAL AFFILIATION: Unknown Prehistoric

DEPTH TO STERILE (cm): 1-10

EXTENT (m²): 100 - 499

AMOUNT OF DISTURBANCE: Unknown

LANDFORM: apb-nl

INTACT DEPOSITS: unlikely

QUAD SHEET: Holla Bend

UTM:

DESCRIPTION: This site is a surface scatter of prehistoric lithic debris, consisting of a very thin scatter of material. The limits of the site were found to be 10 x 20m.

EVALUATION: The site is not eligible for nomination to the National Register of Historic Places.

RECOMMENDATIONS: No further work.

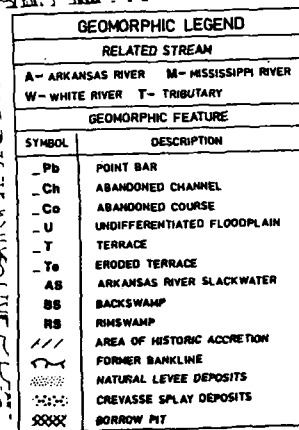
FLAKES

| Provenience | Number | Material | Size | Platform | Cortex | Notes |
|-------------|--------|----------|------|----------|--------|-------|
| Surface | 4 | cht | - | a | a | |
| Surface | 3 | cht | - | a | ps | |
| Surface | 1 | cht | - | p | ps | |
| Surface | 1 | nov | - | a | a | |
| Surface | 1 | nov | - | a | ps | |
| Surface | 1 | qtz | - | pf | a | |

LITHIC ARTIFACTS

| Provenience | Material | Cortex | HF | Description |
|-------------|----------|--------|----|-----------------------|
| Surface | cht | a | a | unid. biface fragment |
| Surface | nov | a | a | unid. biface fragment |

APPENDIX II
GEOMORPHOLOGICAL MAPS



Control by WSCB and WSC-OPS

to place on the product North American (N.A.)
mark the product with a small mark and
16 marks will be shown by double arrow mark.

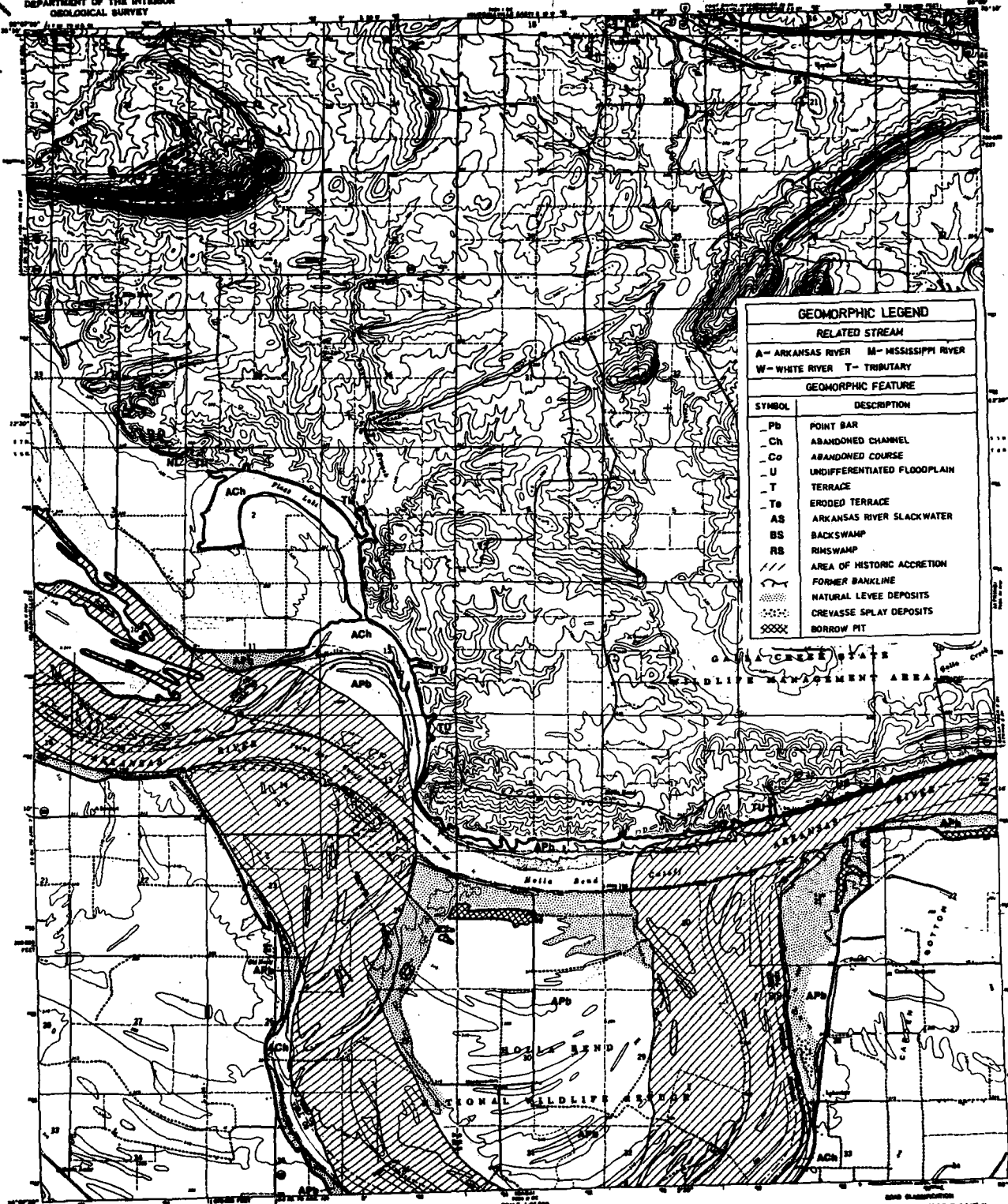


PLATE 1
DARDANELLE, ARK.

1973
PUBLISHED 1973
GSA 7000 0 700 - 00000 0000

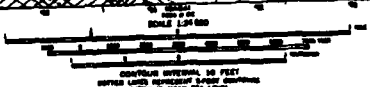
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

HOLLA BEND QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)
1:25,000



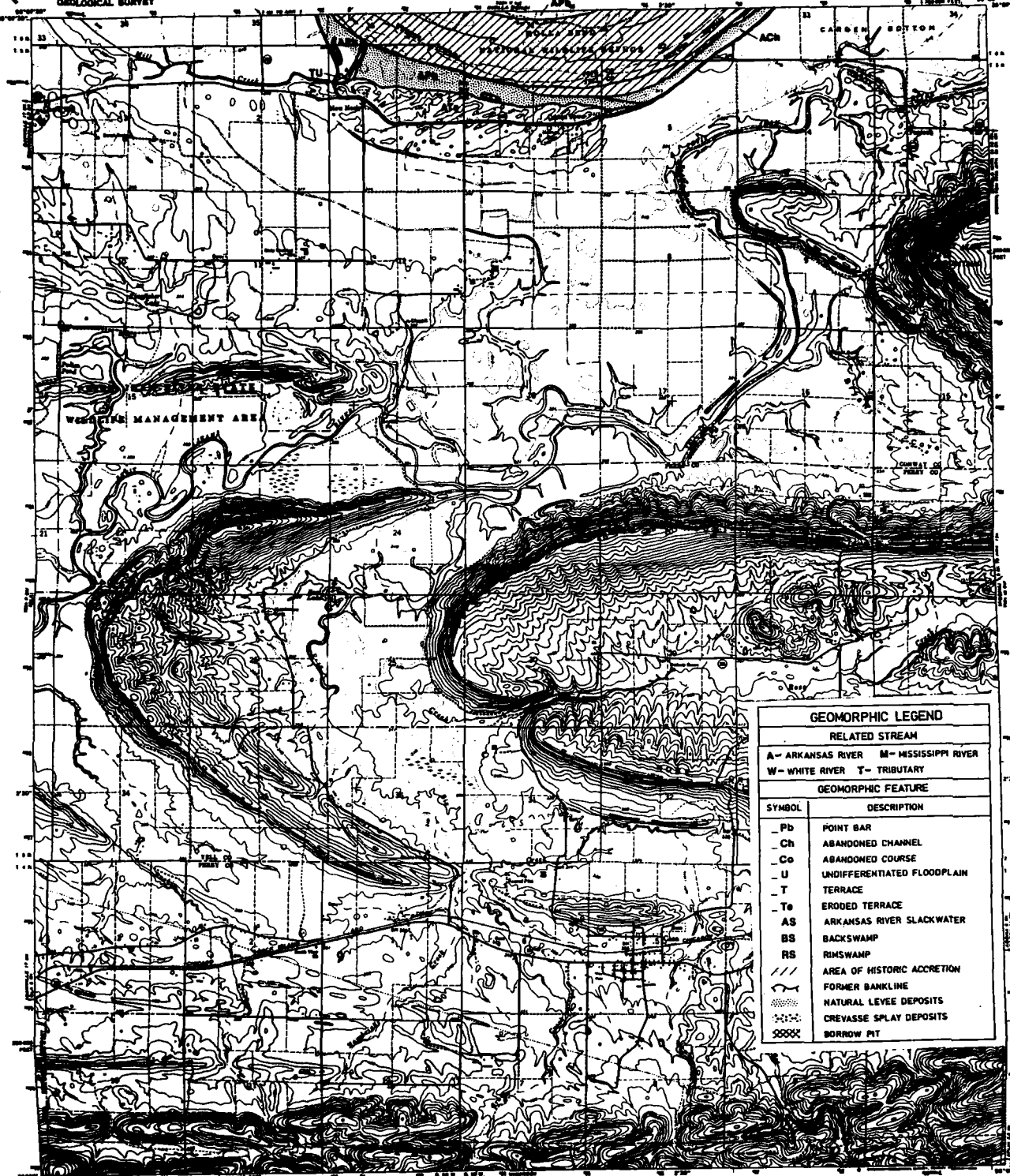
| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| PD | POINT BAR |
| CH | ABANDONED CHANNEL |
| CO | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| To | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| ~ | FORMER BANKLINE |
| | NATURAL LEVEE DEPOSITS |
| ~~~~ | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

Revised, edited, and published by the Geological Survey
Surveyed by 1880s and 1900s
Topography by planimetry, altimetry, and
photogrammetry from 1955. Data collected 1955
Photomaps and photomaps plus other data collected
from 1955 to 1965. Contour interval 20 feet.
Map scale 1:25,000. 7.5 minute series.
This map contains more detailed information than the
general map of the area. This information is contained
in the map of the area.



THIS MAP SHOWS THE NATURAL AND ARTIFICIAL FEATURES
FOR SALE BY THE GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR, WASHINGTON, D.C.
AND BY THE ARKANSAS GEOLOGICAL SURVEY, LITTLE ROCK, ARKANSAS. THESE
MAPS ARE AVAILABLE FOR SALE TO THE PUBLIC AT A SPECIAL DISCOUNT PRICE.

PLATE 2
HOLLA BEND, ARK.
1:25,000
1955
AR 100 0 00-000000 1000



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| ... | NATURAL LEVEE DEPOSITS |
| ... | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

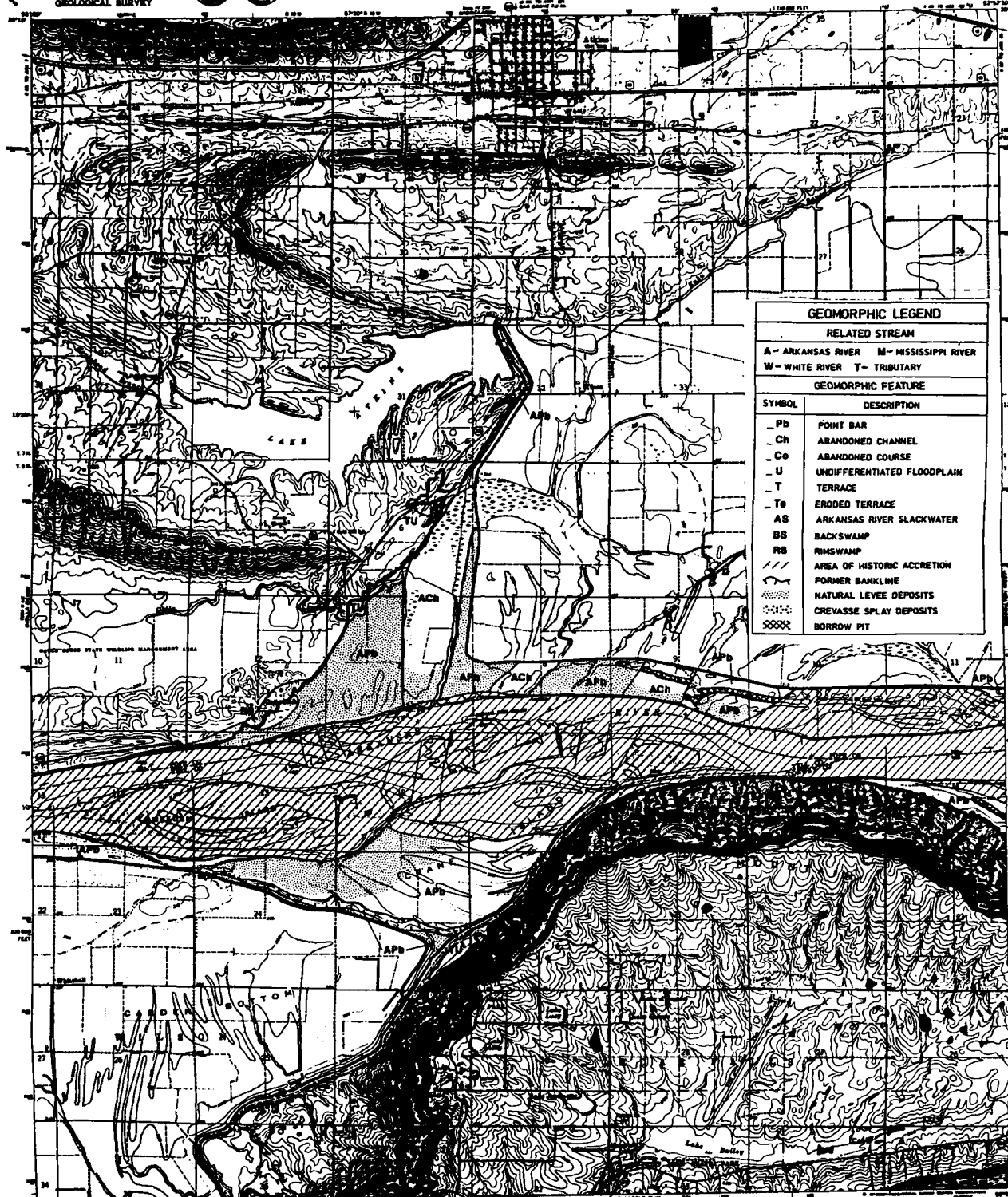
Prepared, edited, and published by the Geological Survey
Revised to 1955 and 1956
Topographic features are derived from aerial
photographs taken 1954. Data obtained 1955
Projections and scale: Albers and other
systems. Some features are not shown
because of space limitations. Contour interval 20 feet,
and 10 feet in some. 1955 North American datum.
Data not shown does not mean that the feature is
absent. This information is for reference only.



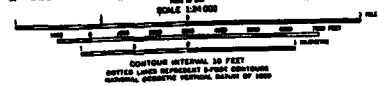
ROAD CLASSIFICATION
Primary highway: Light gray line, solid or
dashed
Secondary highway: Dashed line
Tributary road: Dashed line
Unimproved road: Dotted line
State Route: Circle with number
U.S. Route: Square with number
State Route: Circle with number

PLATE 3
CASA, ARK.
1:250,000 (1:250,000)

THIS MAP COMPLETES THE HOUSEHOLD MAP SERIES
FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C. 20508
AND BY THE ARKANSAS GEOLOGICAL SURVEY, LITTLE ROCK, ARKANSAS 72201
A HOUSEHOLD MAP SERIES AND OTHERS ARE AVAILABLE ON ORDER



Map made, edited, and published by the Geological Survey
Control by USGS, VICTORIA, and USGS
Topographic by photogrammetry methods from aerial
photographs taken 1955. Plate revised 1961.
Photographic projection. 1957 North American datum.
Elevation and contour on Arkansas River valley, with some
1955-1956 topographic information from the same
area 1955, shown in blue.
Blue and colored lines indicate selected lines and field lines when
previously visible on aerial photographs. This information is contained
there may be other information within the boundaries of
the National or State boundaries shown on this map.
Boundaries shown in purple represent from aerial photographs taken
1957. Map revised 1959. This information not field checked.

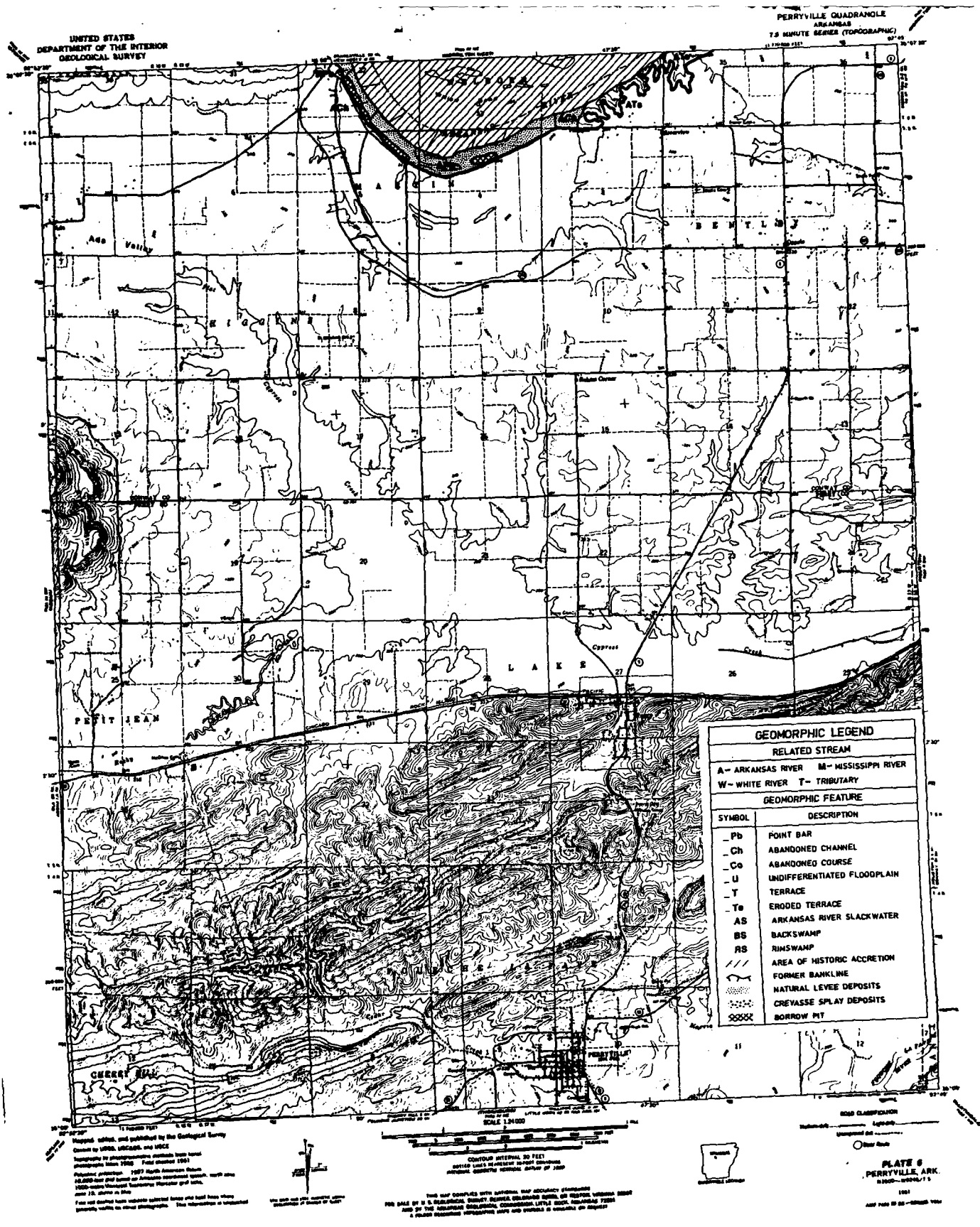


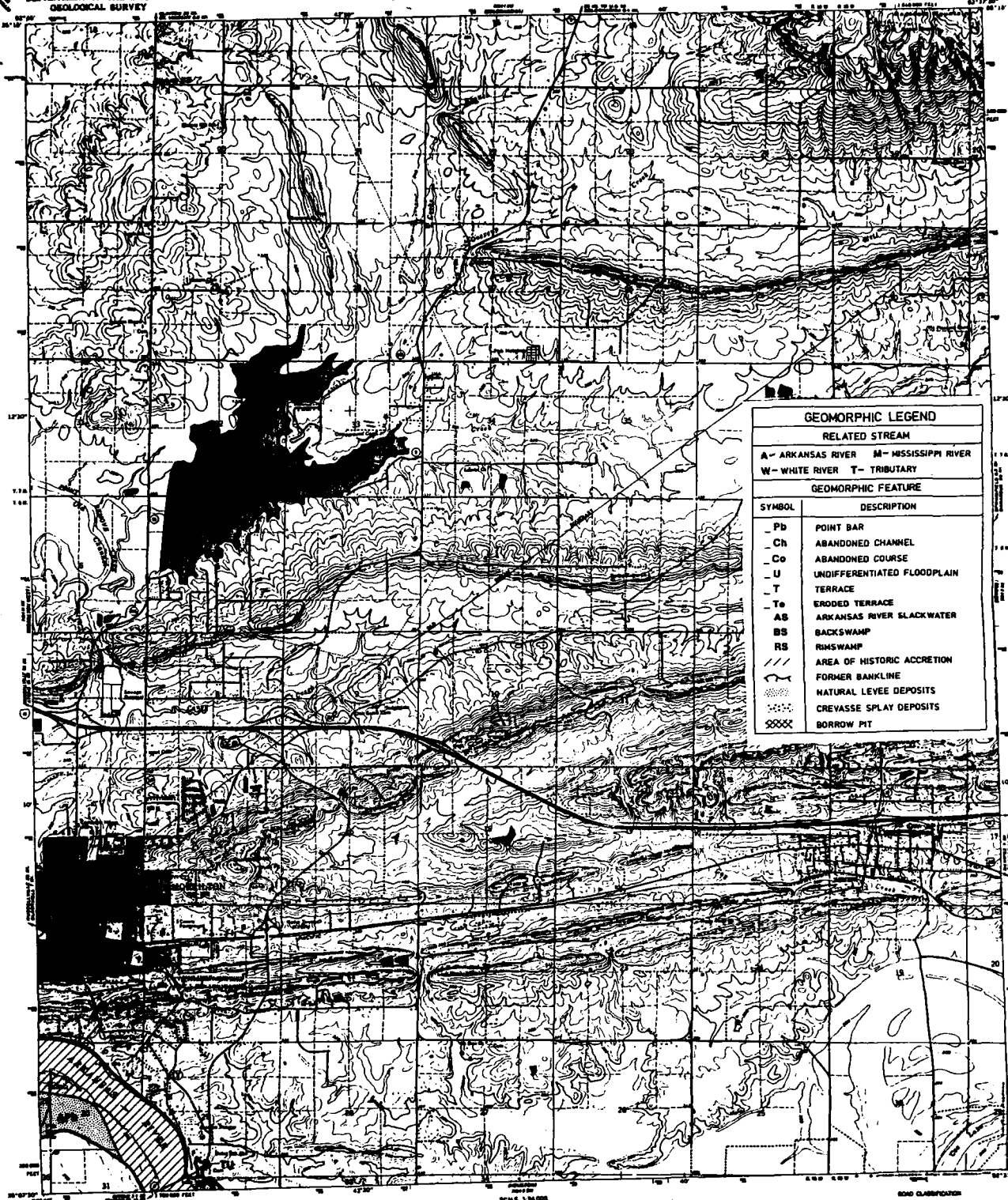
ROAD CLASSIFICATION

Highway: ————
Roadway: ————
U.S. Route: ☐ State Route: ☐ Interstate Route: ☐

**PLATE 4
ARKANSAS**
1951
PHOTOGRAPHIC
DATA FROM 1955-1959

THIS MAP COMPLETES THE NATIONAL MAP ACQUISITION PROGRAM
FOR SALE BY U.S. GEOLOGICAL SURVEY, BOSTON, MASSACHUSETTS, AND REGIONAL OFFICES
AND ARKANSAS GEOLOGICAL SURVEY, LITTLE ROCK, ARKANSAS 72203
A FOLDER CONTAINING PHOTOGRAPHIC MAPS AND OTHERS IS AVAILABLE ON REQUEST





Mapport, edited, and published by the Geological Survey
Control by USGS, USCGO, and USCE
Topography by photogrammetric methods from aerial
photographs taken 1928. Field sheets 1901
Polymerization. 1928. North American Datum
14,000-foot grid based on Arctian coordinates, north zone
100-meter interval. National Horizontal grid date,
year 1:0. datum to base
All but sections are to which any further changes are shown
in place on the published first American Edition 1928
show the positions from 14,000 feet north and
10 meters and so shown to reflect minor data
American edition on properly compiled from aerial photographs taken
1928 and 1929. 1928. 1928. The information on field sheets

SCALE 1:24,000

CONTOUR INTERVAL 50 FEET
HATCHING, SLOPING SECTION, GRADE OF 1000

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U S GEOLOGICAL SURVEY, DENVER, COLORADO 80260, OR RESTON, VIRGINIA 22091
AND ARIZONA GEOLOGICAL COMMISSION, LITTLE ROCK, ARIZONA 85204
A COLORADO GEOLOGICAL INFORMATION MAPS AND DIGITALS IS AVAILABLE ON REQUEST

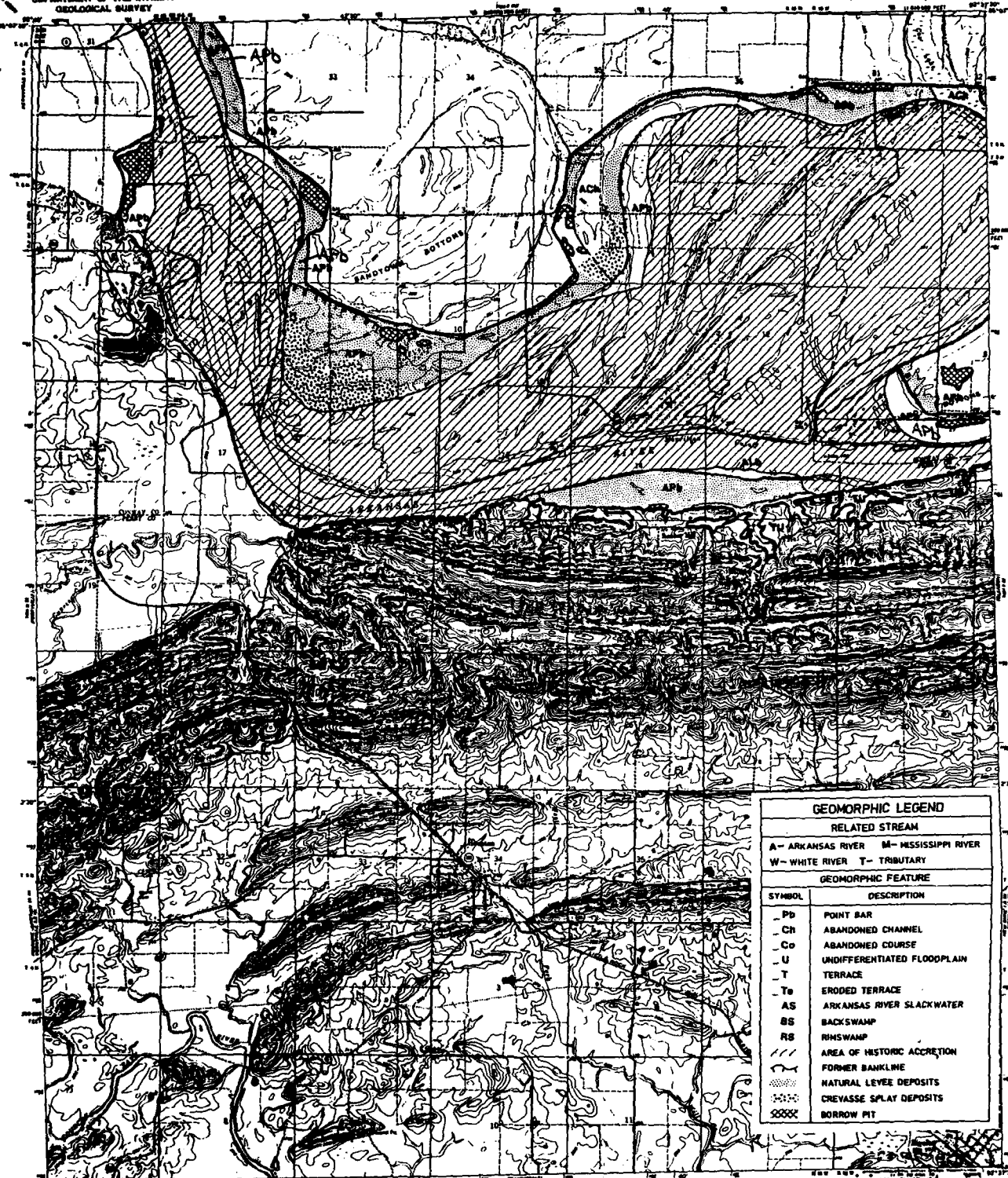
ROAD CLASSIFICATION

Heavy-duty _____ Light-duty _____
Medium-duty _____ Unimproved dirt _____

☒ U.S. Route ☐ State Route
☐ Interstate Route

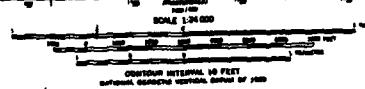
PLATE 7
MORRILLTON EAST, ARK.
42667 D-42672 5/7/5

YES
PROPOSED FOR 1951
SEE 129, 5, 27-28000, Vol.



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| To | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RHINOSWAMP |
| | AREA OF HISTORIC ACCRETION |
| | FORMER BANKLINE |
| | NATURAL LEVEE DEPOSITS |
| | CREVASSE SPILT DEPOSITS |
| | BORROW PIT |

Plotted, edited, and published by the Geological Survey
 based on 1900, 1905, and 1910
 maps. The map is a compilation of
 the original maps and is not a
 reproduction of the original maps.
 The map is a compilation of the
 original maps and is not a
 reproduction of the original maps.
 The map is a compilation of the
 original maps and is not a
 reproduction of the original maps.

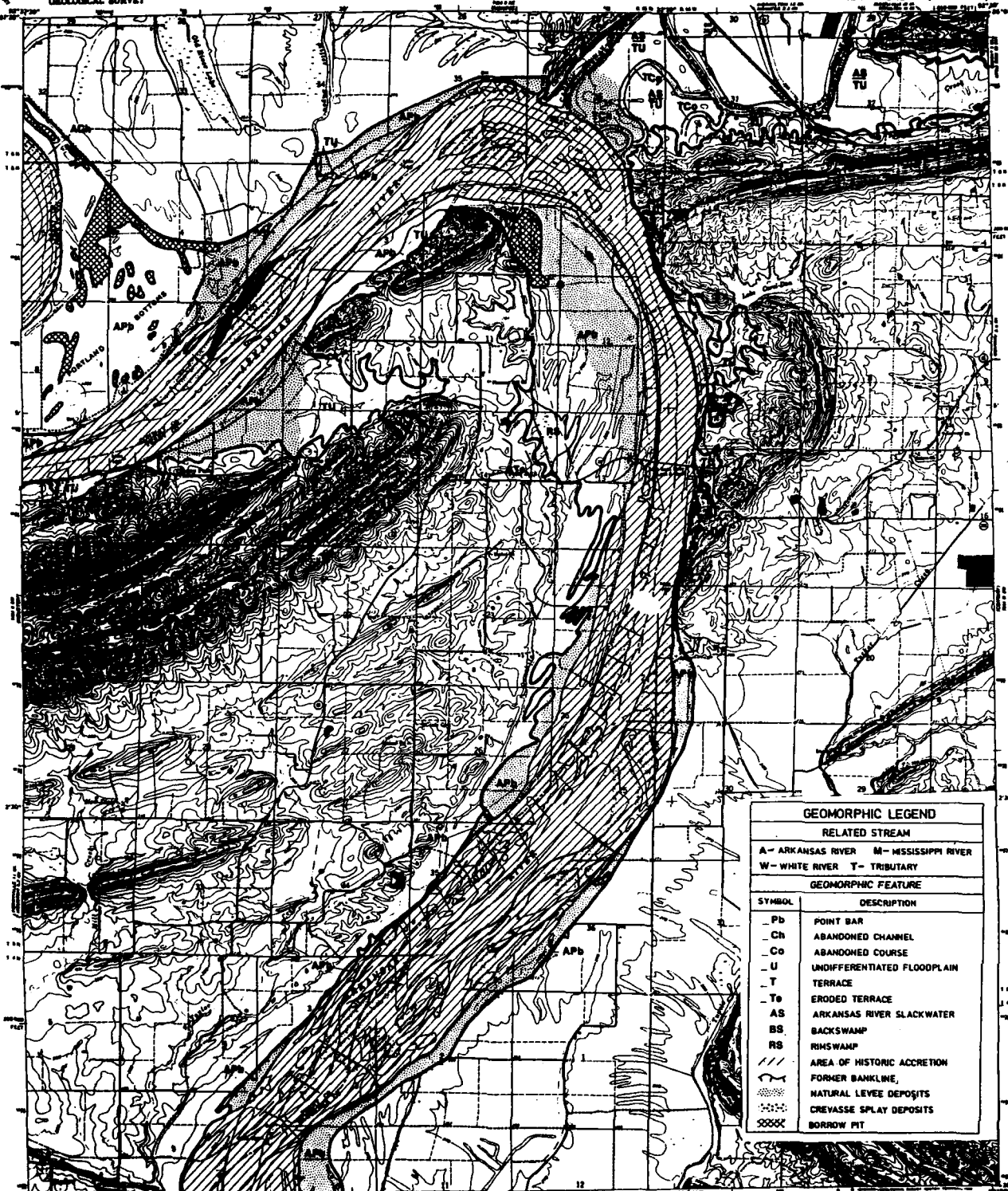


ROAD CLASSIFICATION
 Highway
 Railroad

PLATE 8
 HOUSTON, ARK.
 1900-1910
 PHOTOGRAPHED 1951
 1:50,000

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OLEASON QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)
SECTION 25, T.1N. R.1E. (AR. 211) 67° 20'



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMS WAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| ~~~~~ | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXXX | BORROW PIT |

Map, edited, and published by the Geological Survey
Surveyed by W. H. WOODS, and others
Topographic features are from aerial
photographs taken 1958. Field checked 1961.
Elevation contours 100 ft. interval shown
10,000-foot and lower on horizontal coordinate system, with one
contour interval 200 feet. Contour interval 100 ft.
and 50 ft. shown in other
Place not shown from recently collected data and field notes where
generally shown on other photographs. This information is considered
to show on the published map. Contour interval 100 ft.
and the elevation shown 200 feet and one
in each case is shown by dashed contour line.
Contours shown by points elongated from aerial photographs taken
1958. Map edited 1961. The information is not shown.



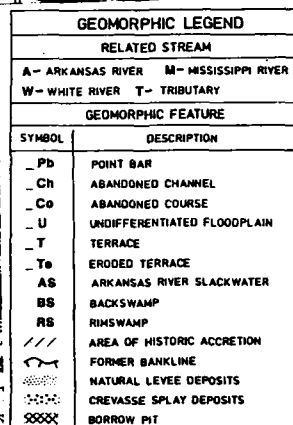
SCALE 1:24,000
HORIZONTAL SCALE: 1 INCH = 200 FEET
VERTICAL SCALE: 1 INCH = 40 FEET

THIS MAP SHOWS THE GENERAL MAP BOUNDARY SHOWN
FOR SALE BY U. S. GEOLOGICAL SURVEY, FEDERAL GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.
AND ARKANSAS GEOLOGICAL SURVEY, LITTLE ROCK, ARKANSAS 72201
A POLAR PROJECTION TOPOGRAPHIC MAP AND BOUNDARY IS AVAILABLE ON REQUEST

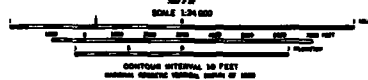


ROAD CLASSIFICATION
Primary highway
Secondary highway
Unimproved road
Light-duty road, hard or
improved surface
U. S. Road
State Road

PLATE 9
OLEASON, ARK.
1960-1961-7/5
100
GSA 100-10-10-100000



THE CASE AND THE RELEVANT FACTS
CONSIDERED AS A WHOLE



THIS MAP COMPLEIES WITH NATIONAL MAP ABSTRACT STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80260, OR BOSTON, MASSACHUSETTS 02109
AND NATIONAL GEOGRAPHIC COMMISSION, LITTLE ROCK, ARKANSAS 72205
A FOLDER CONTAINING INFORMATION MAPS AND SAMPLES IS AVAILABLE ON REQUEST



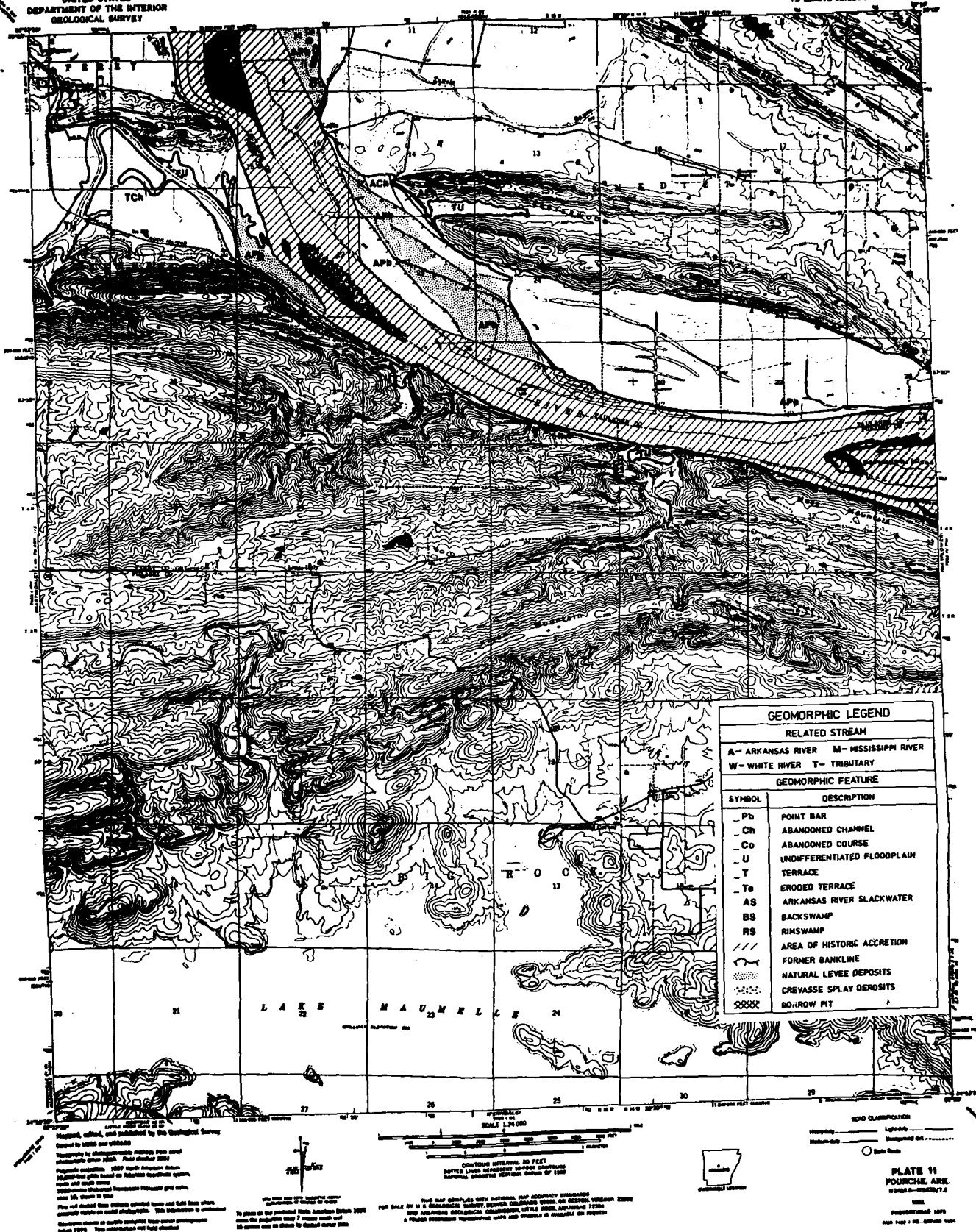
ROAD CLASSIFICATION

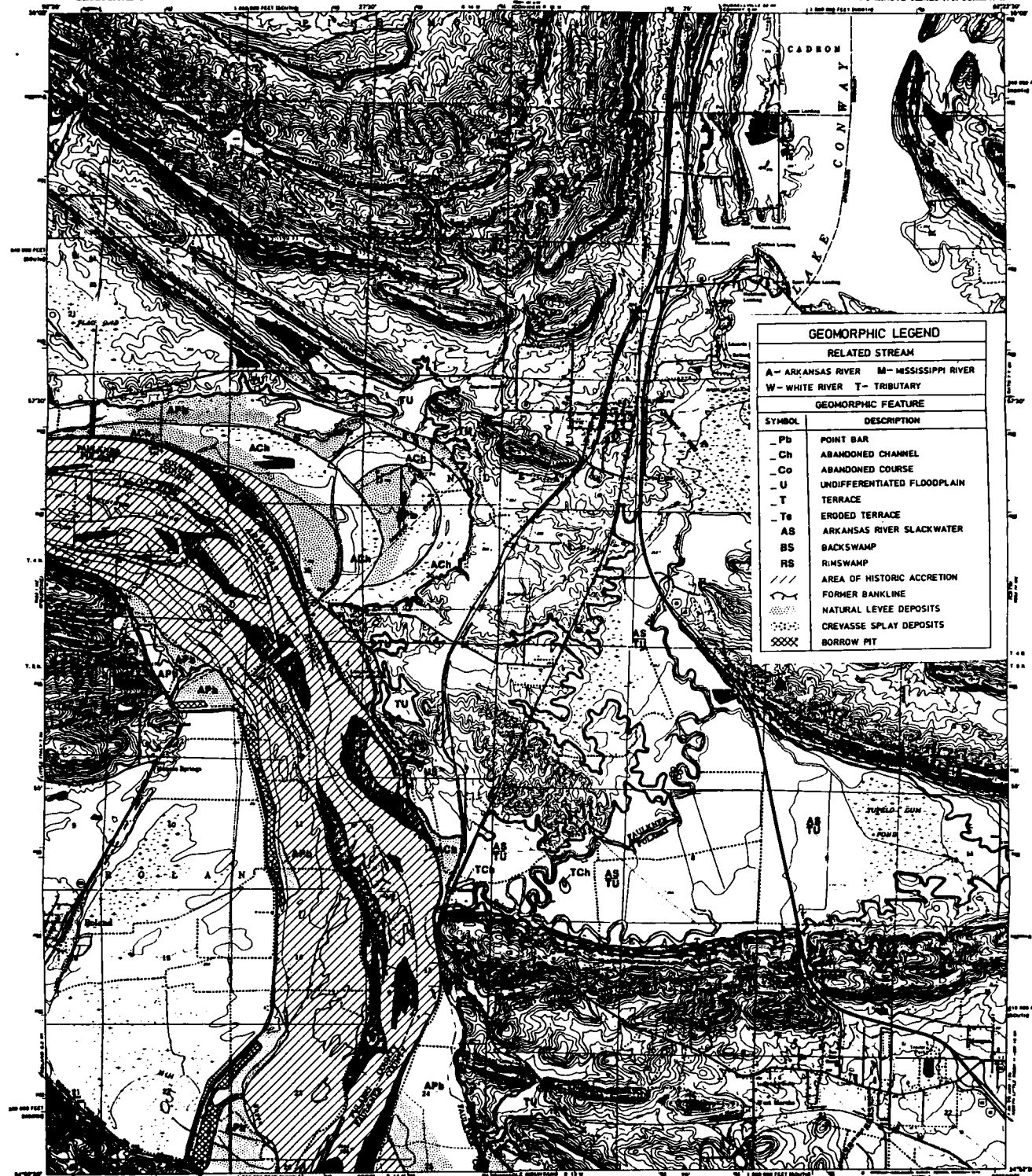
Heavy-duty _____ Light-duty _____
Medium-duty _____ Unimproved dirt _____

☐ U.S. Route ☐ State Route
☐ Interstate Route

PLATE 10
MEMPHIS, ARK
1001 3-10000/7.5

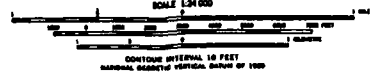
1964
PONTIAC/OLDSMOBILE DIV.
2000 1400 2.00-20000

FOURCHE QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)



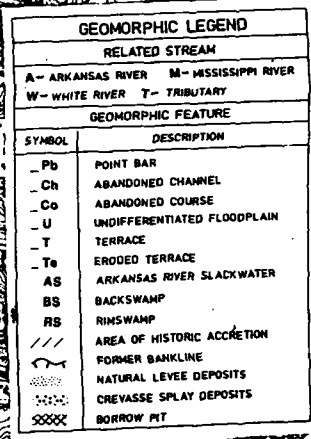
| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| ~ | FORMER BANKLINE |
| ... | NATURAL LEVEE DEPOSITS |
| XXXX | CREVASSE SPILT DEPOSITS |
| XXXX | BORROW PIT |

Map by the Army Map Service
Published for field use by the Geological Survey
Control by 1900, 1905, 1910, and 1915
Topography from aerial photographs by photogrammetric methods
Aerial photography taken 1930. Field check 1930
Published September 1937. Fourth revision dated
1942. Map scale based on Arkansas coordinate system,
zone 10, shown in blue
Contours shown in purple except by the Geological Survey
from aerial photographs taken 1930 and 1935. This information
was then checked



ROAD CLASSIFICATION
Heavy-duty Light-duty
Unimproved dirt
Interstate Road U.S. Road State Road
PLATE 12
MAYFLOWER, ARK.
1942
PHOTOGRAPHED 1930 AND 1935
AND 1940 BY U.S. ARMY

THIS MAP COMPLETES THE NATIONAL MAP ACQUISITION PROGRAM
FOR SALE BY U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, 1225 N. MICHIGAN AVE.,
AND ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS 72201
A FOLDER CONTAINING INFORMATION PERTAINING TO THIS MAP IS AVAILABLE ON REQUEST



ROAD CLASSIFICATION

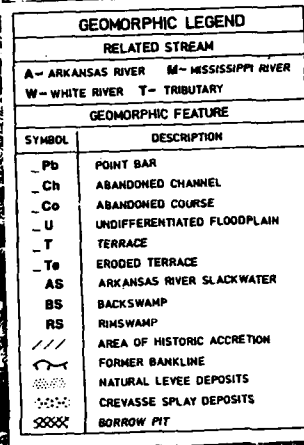
Heavy-duty _____ Light-duty _____
Medium-duty _____ Unimproved Grd _____

☐ State Road
☐ Interstate Road

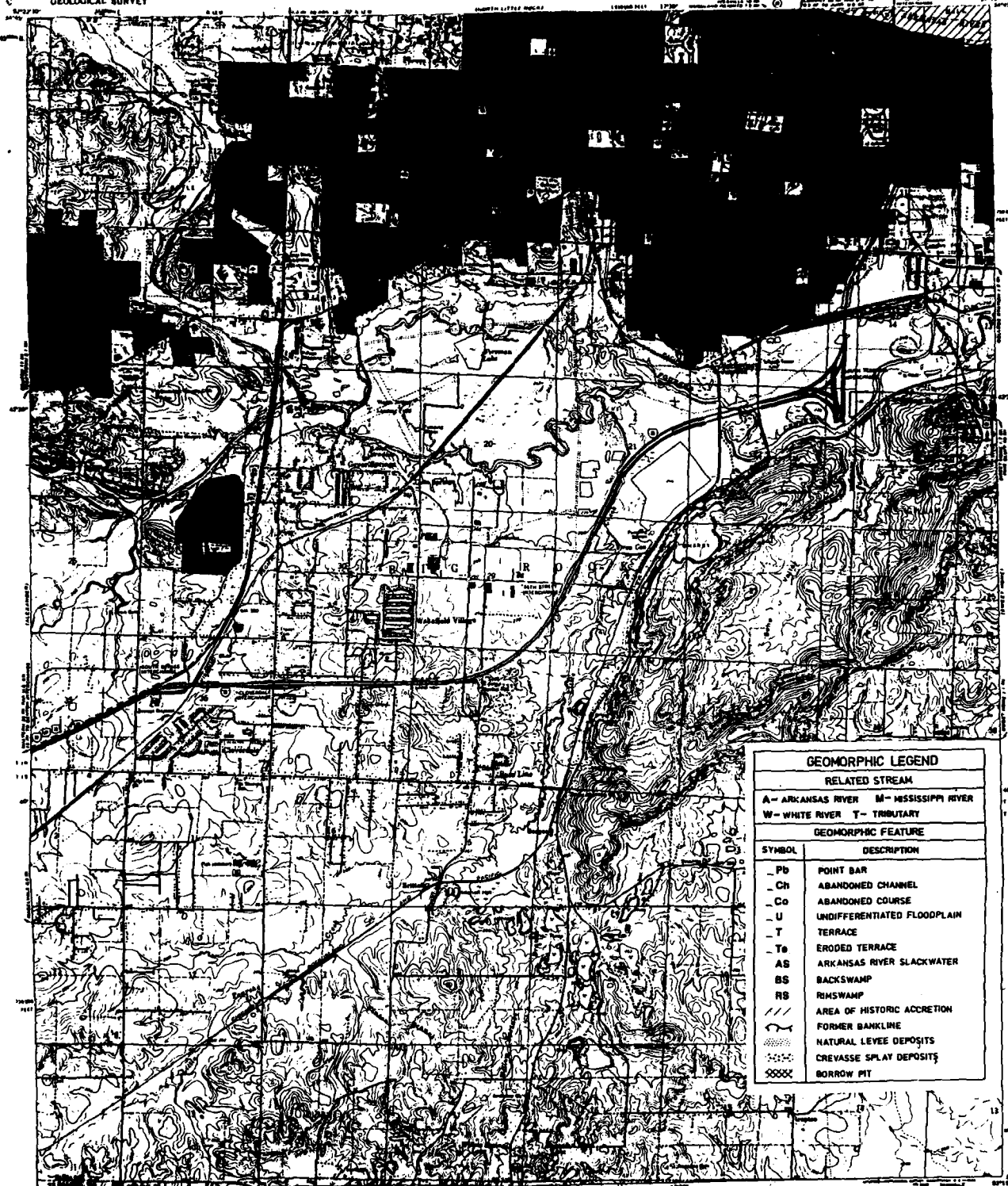
PLATE 13
PINNACLE MOUNTAIN, ARK.
R3440-00022 5/7 0

1001

POSTED 1970 AND 1976
AND 1980 BY GW-DESIGN TEAM



How Well It Works *100%*

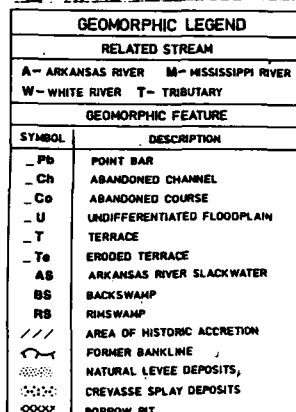


| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXXX | BORROW PIT |

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 For more information, contact the publisher

Scale 1:50,000
 Contour Interval 10 Feet
 1968 Edition
 This map shows only the general location of the Little Rock area and is not intended to be used for navigation or other purposes.
 For sale by the U.S. Geological Survey, 1225 North 1st Street, Reston, VA 20191
 and by the Arkansas Geological and Waterways Commission, Little Rock, Arkansas
 A former edition of this map is available on request

ROAD CLASSIFICATION
 Heavy Duty Highway
 Light Duty Highway
 Unimproved Road
 U.S. Route
 State Road
 Plate 18
 Little Rock, Ark.
 1968 Edition
 1001

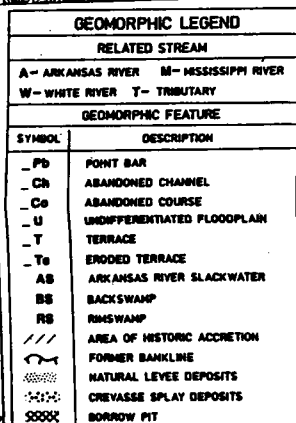


ROAD CLASSIFICATION

Heavy-duty _____ Light-duty _____
Medium-duty _____ Unimproved dirt _____

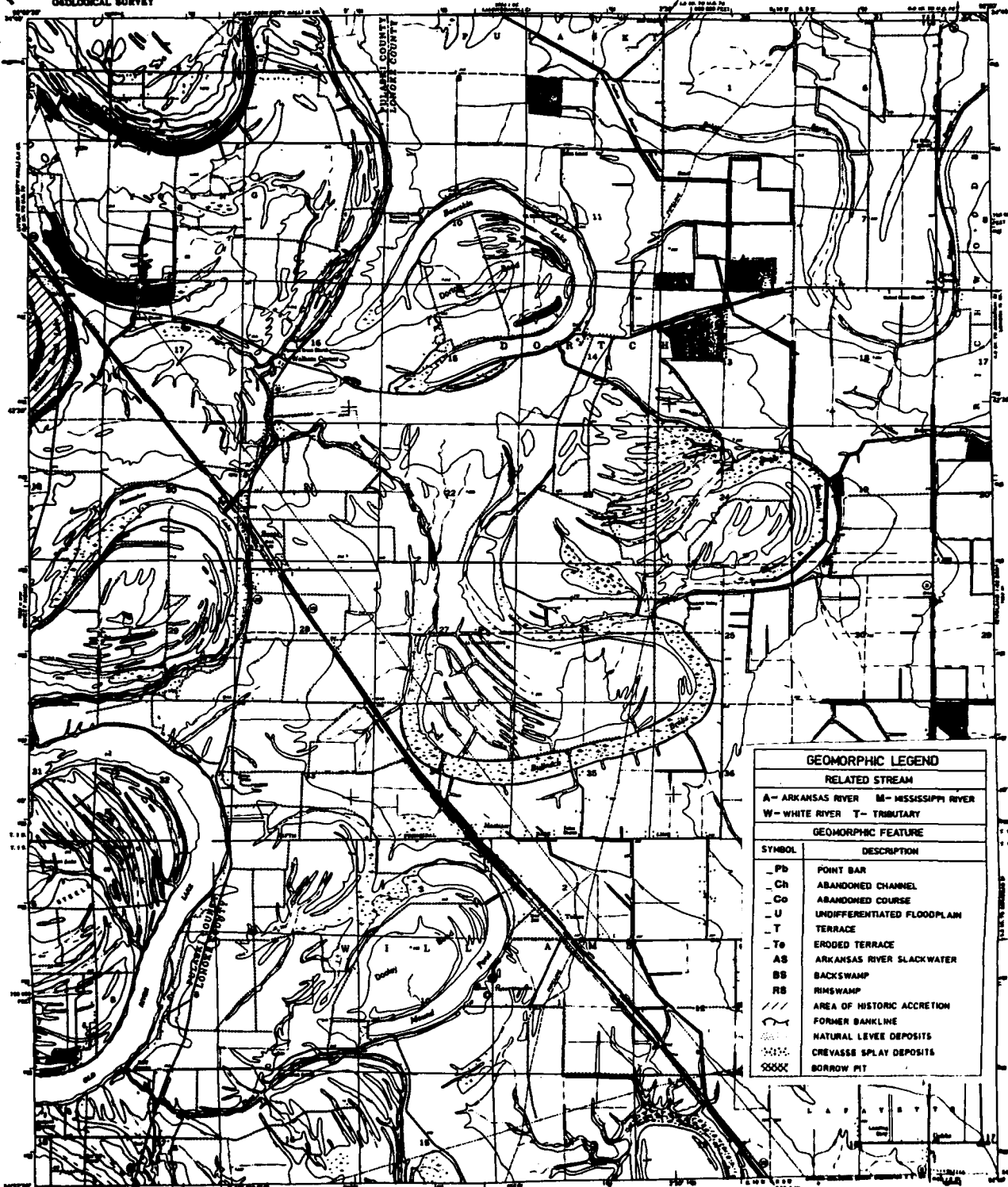
☐ Interstate Route ☐ U. S. Route ☐ State Route

PLATE 18
MC ALMONT, ARK.
H 3448—W2027 2/7.5
3021
PREPARED BY 1976 AND 1977
AND 1978 1 00—GIVEN 1976



THIS MAP COMPLEYS WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U S GEOLOGICAL SURVEY, DENVER, COLORADO 80260 OR WASHINGTON, D. C. 20504
AND BY THE ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS 72201
A COLOR REPRODUCTION, INFORMATION, MAPS AND MATERIALS IS AVAILABLE ON REQUEST

PHOTOGRAPHED 10/70
AND PLS. 8 NEW-SERIES FOR



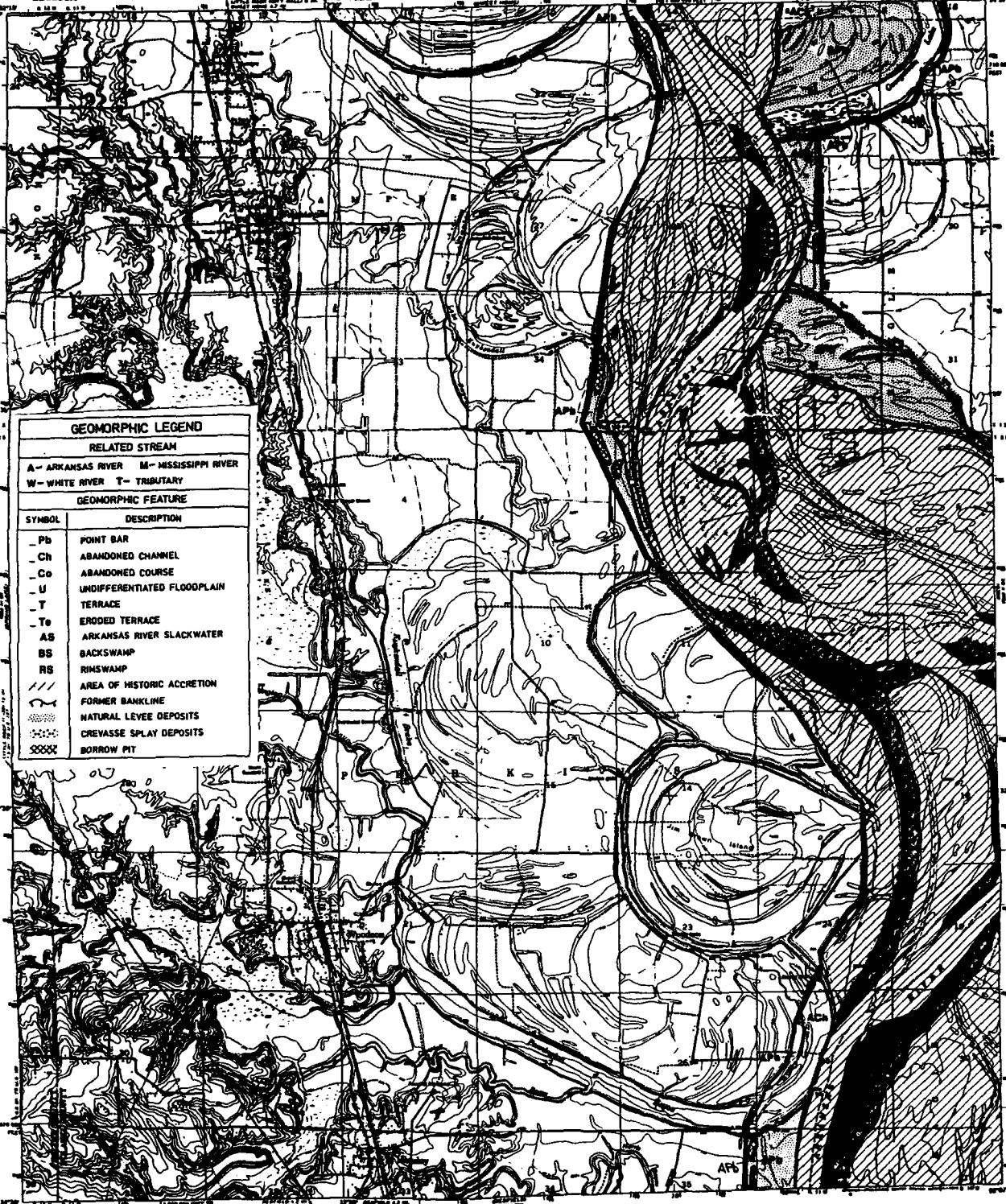
| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A- ARKANSAS RIVER | M- MISSISSIPPI RIVER |
| W- WHITE RIVER | T- TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| To | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| ... | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

Map by the Geological Survey
Based on the Army Map Service
Published for sale by the Geological Survey
Based on 1900, 1905, and 1910
Topography by aneroid survey 1910
Photographic aerial control from aerial photographs
taken 1900. First sheet 1900
Revised edition. 1907 North American edition
Published and sold by the Geological Survey
and the Arkansas Geological Survey, Little Rock, Arkansas 1907
A further revision incorporated more and improved data obtained
from 1900 to 1907
Revisions made in parts supplied by the Geological Survey from
aerial photographs taken 1900. This revision is first edition



ROAD CLASSIFICATION
Heavy-duty Light-duty
Medium-duty Unimproved dirt
Dirt Road

PLATE 10
SCOTT, ARK.
1900
PUBLISHED 1900
AND FOR SALE BY THE GEOLOGICAL SURVEY



GEOGRAPHIC LEGEND

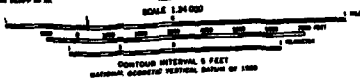
RELATED STREAM

A - ARKANSAS RIVER M - MISSISSIPPI RIVER
W - WHITE RIVER T - TRIBUTARY

GEOGRAPHIC FEATURE

| SYMBOL | DESCRIPTION |
|--------|-----------------------------|
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| To | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| ~~~~~ | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

Prepared by the Geological Survey
Revised by the Army Map Service
Published for sale by the Geological Survey
Control by USGS, 1950, 1955, 1960, and 1965
Revised by the Geological Survey, 1960
Revised by the Geological Survey, 1965
Revised by the Geological Survey, 1970
Revised by the Geological Survey, 1975
Revised by the Geological Survey, 1980
Revised by the Geological Survey, 1985
Revised by the Geological Survey, 1990
Revised by the Geological Survey, 1995
Revised by the Geological Survey, 2000
Revised by the Geological Survey, 2005
Revised by the Geological Survey, 2010
Revised by the Geological Survey, 2015
Revised by the Geological Survey, 2020



ROAD CLASSIFICATION
Unimproved Road
Improved Road
U.S. Road
State Road



**PLATE 10
WOODSON, ARK.**

1954
PHOTOGRAPHED 1970
PUBLISHED 1975
1:250,000 24x36

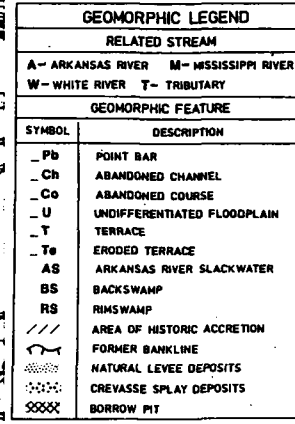
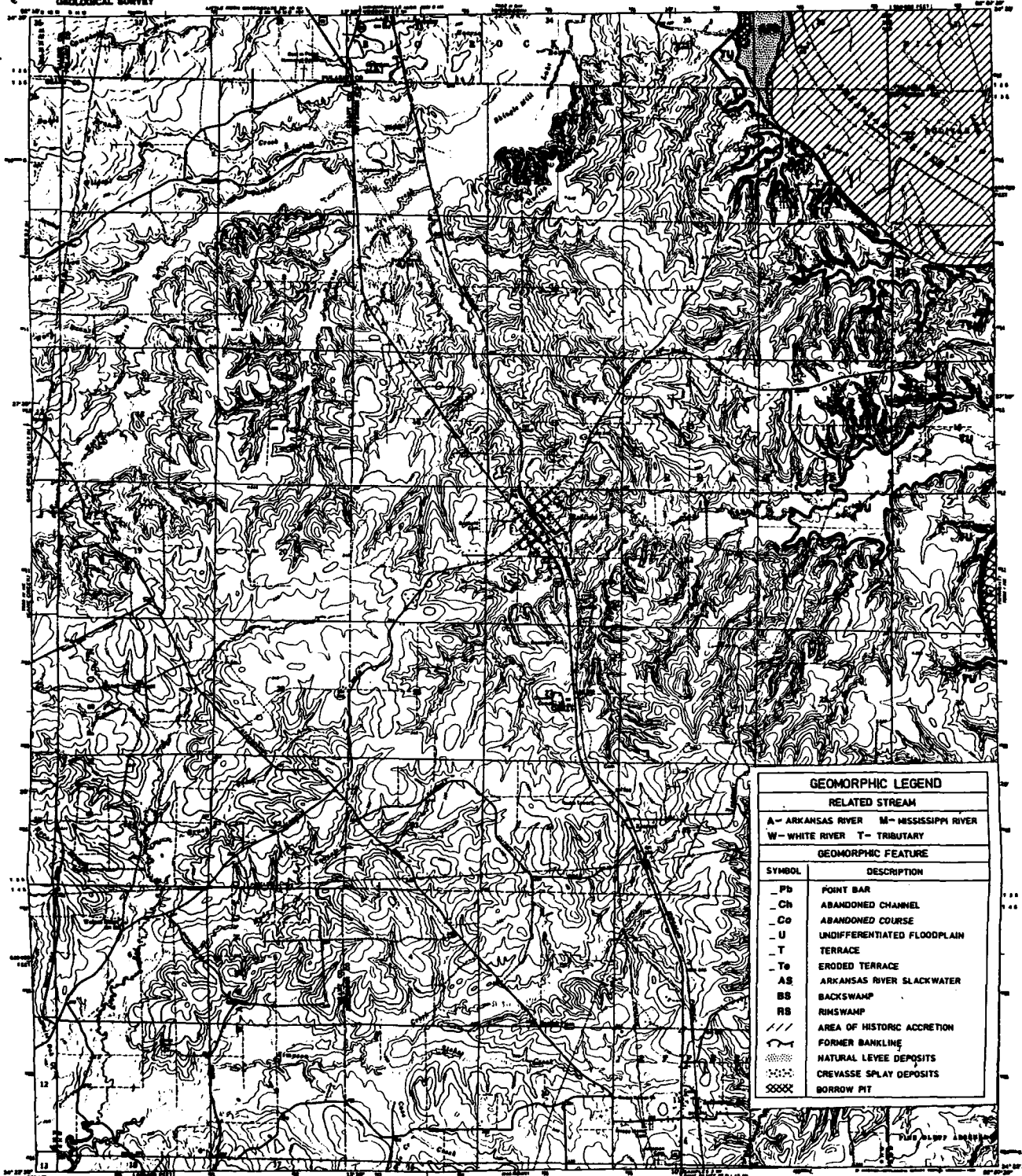


PLATE 20
KEO, ARK.
US-450-WR200/7.5



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| PB | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| ~ | FORMER BANKLINE |
| | NATURAL LEVEE DEPOSITS |
| | CREVASSE PLAY DEPOSITS |
| XXXXX | BORROW PIT |

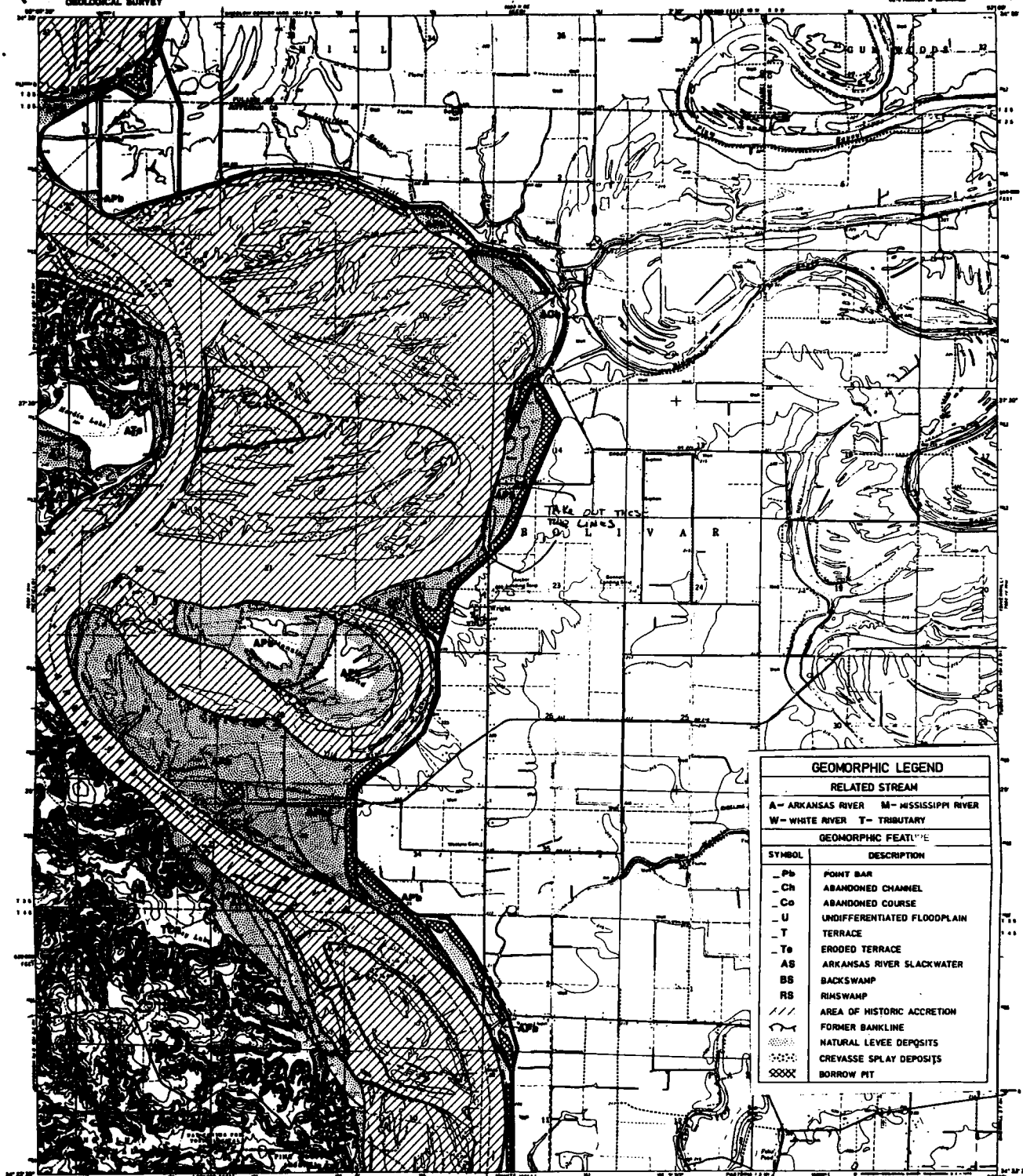
Map compiled, edited, and published by the Geological Survey
Surveyed by L. S. and M. S. S. S.
Topographic and geologic maps of the Redfield area
published by the Geological Survey, 1907. First edition 1907.
Revised edition, 1907. (Third edition revised)
The boundary and location of Arkansas counties, towns, and
cities are shown. The boundary and location of Arkansas
and Mississippi rivers are shown.
First and second water control districts and flood plain areas
indicated by wavy lines. This information is published
for the purpose of showing the location of the flood plain areas.



SCALE 1:24,000
CONTOUR INTERVAL 50 FEET
Datum is Mean Sea Level

THIS MAP COMPLETES THE SERIES OF MAPS OF THE
REDFIELD QUADRANGLE, ARKANSAS, FOR THE
GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY.
FOR SALE BY THE GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY.
A PLEASANT DISCOUNTED PRICE OF \$1.00 IS AVAILABLE BY REQUEST.

ROAD CLASSIFICATION
Primary highway, all weather. Secondary highway, all weather. Tertiary highway, all weather. Unimproved road, dirt or clay road.
Landing and all weather. Improved surface. Unimproved surface. Road or dirt road.
State Road
PLATE 81
REDFIELD, ARK.
Arkansas and Mississippi Rivers
Scale 1:24,000
1907



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| - Pb | POINT BAR |
| - Ch | ABANDONED CHANNEL |
| - Co | ABANDONED COURSE |
| - U | UNDIFFERENTIATED FLOODPLAIN |
| - T | TERRACE |
| - To | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIBSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| ---- | NATURAL LEVEE DEPOSITS |
| ----- | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

Prepared, edited, and published by the Geological Survey
Surveyed by W. S. and J. S. 1895
Photographed by photogrammetry methods from aerial
photographs taken 1935. Field checked 1939
Publication authorized. 1937 United States Government
Printing Office and United States Geological Survey, under the
author's direction. Transmitted through the
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A FOLDER ACCORDING TO THE STATE AND FEDERAL LAWS IS AVAILABLE ON REQUEST

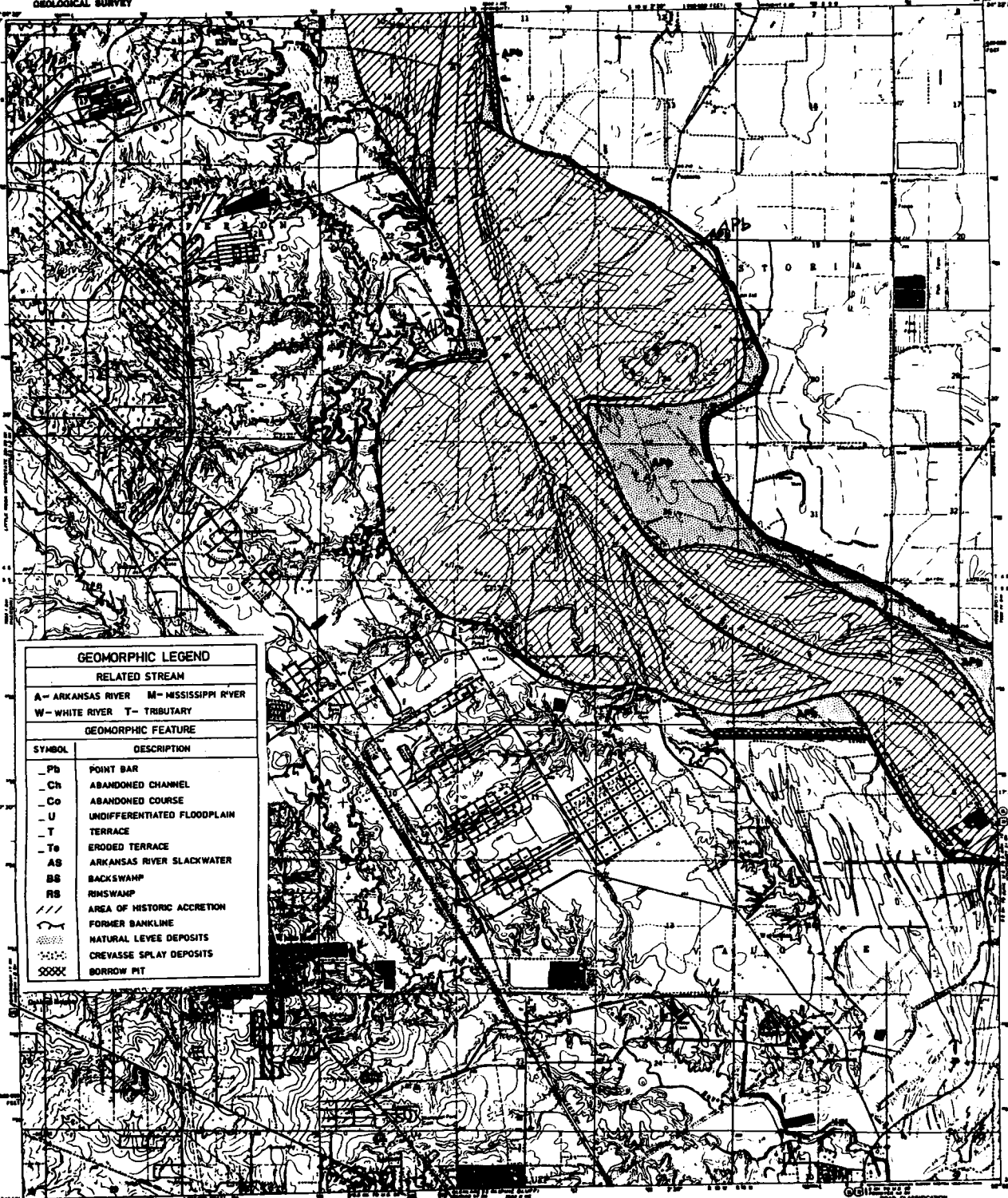


SCALE 1:250,000
CONTOUR INTERVAL, 5 FEET
Elevation in feet sea level



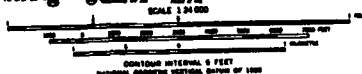
ROAD CLASSIFICATION
Secondary highway, all weather. Light duty road, all weather
Hard surface. Improved surface
Unimproved road, fair or dry
roadbed

PLATE 32
WRIGHT, ARK.
U. S. GEOLOGICAL SURVEY
32422 2-10000-7 3
1939



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| --- | FORMER BANKLINE |
| ~~~~~ | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

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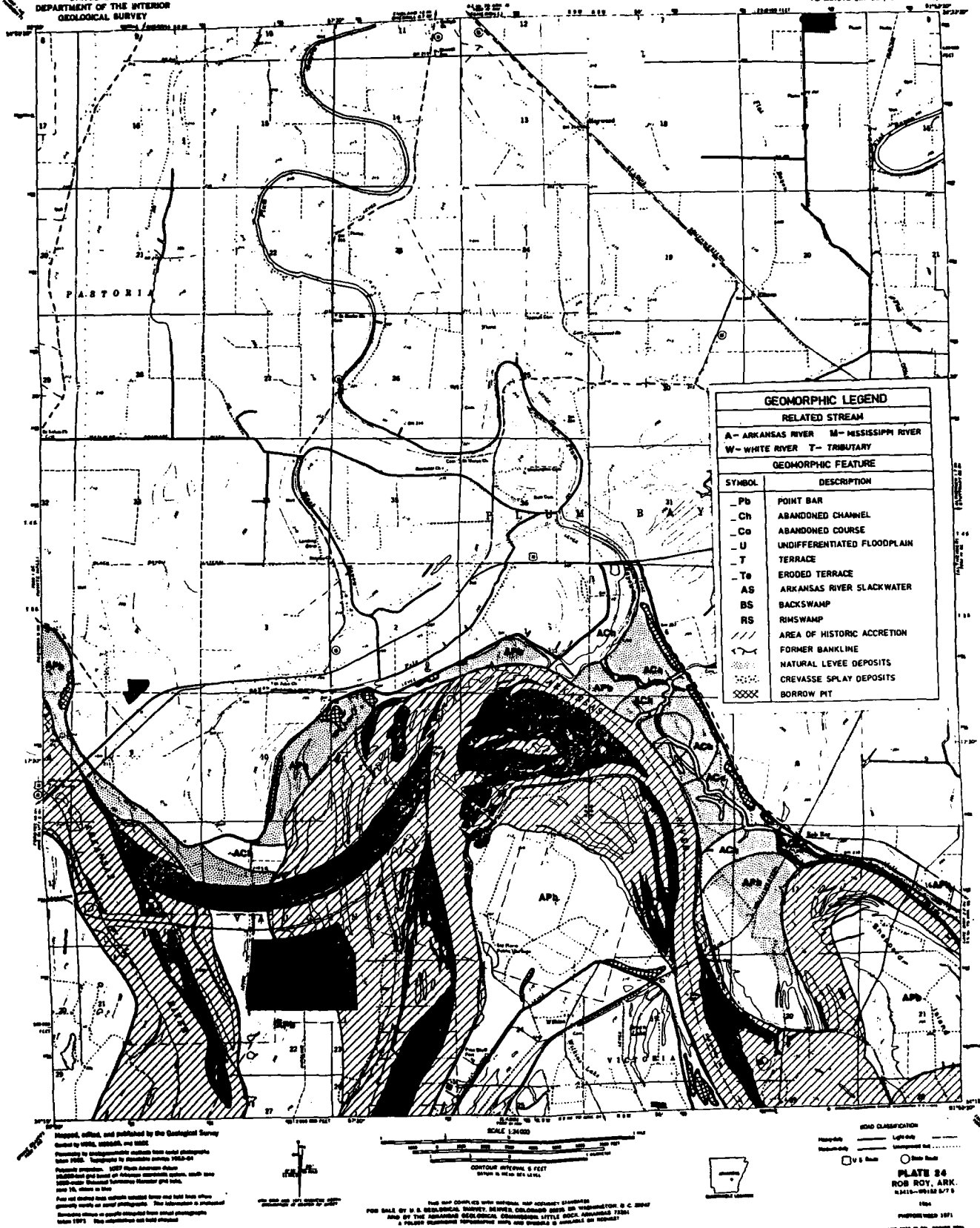


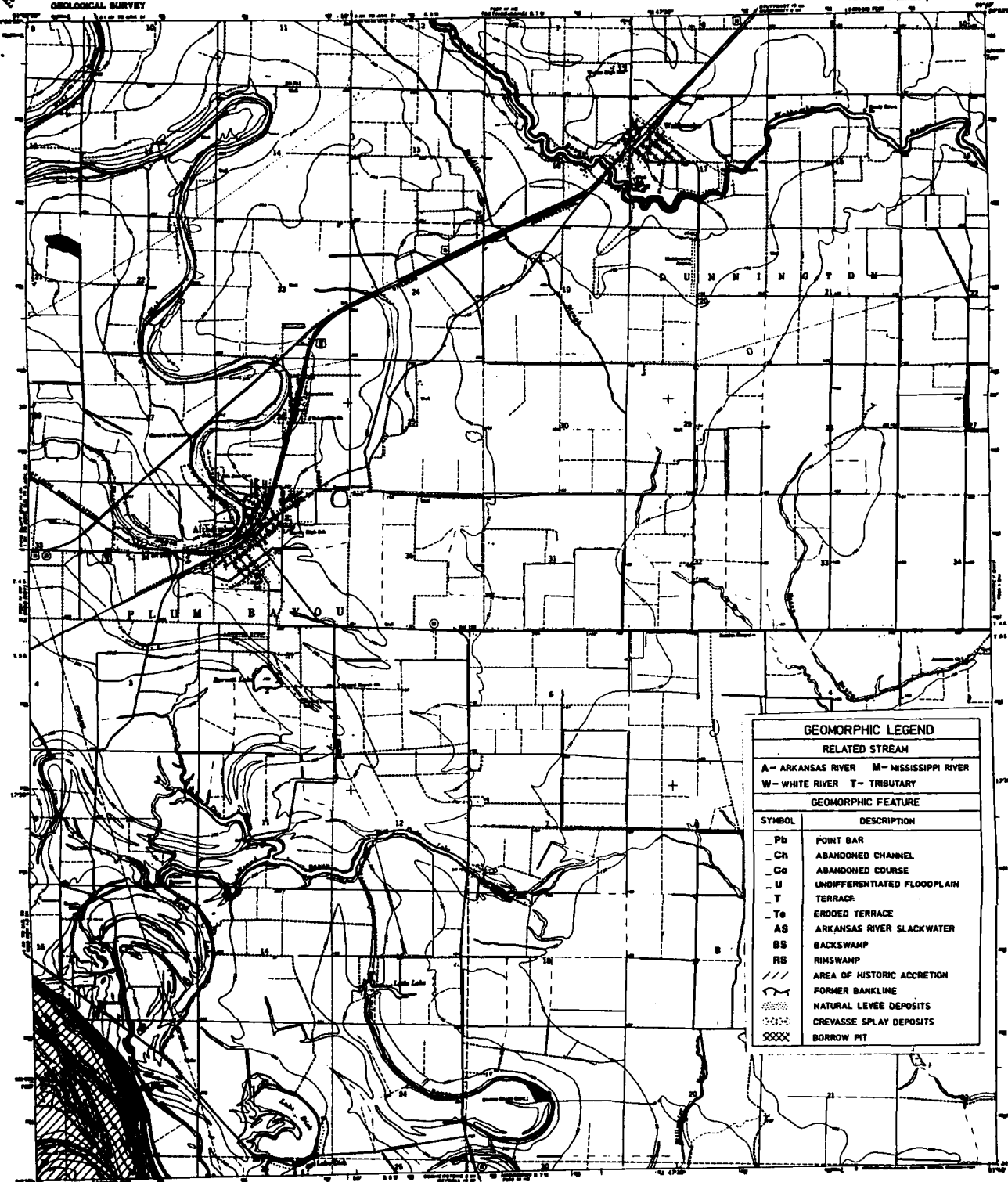
Primary highway, all weather
Secondary highway, all weather
Tertiary highway, all weather
Unimproved road, for or by
other

Light duty road, all weather
Medium duty road, all weather
Heavy duty road, all weather
Unimproved road, for or by
other

THIS MAP COPIES WITH NATIONAL MAP ACQUISITION STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY BULLETIN COLUMBIAN BOOKS, 1220
AND AERIAL PHOTOGRAPHY, COLUMBIAN BOOKS, 1220
A PLEASANT SURROUNDING OF THE MAP AND COLUMBIAN BOOKS, 1220

PLATE 22
WHITE HALL, ARK.
1957
PROPOSED 1970
AND 1971 10-10-1970





| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A— | ARKANSAS RIVER |
| M— | MISSISSIPPI RIVER |
| W— | WHITE RIVER |
| T— | TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RINSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| — | FORMER BANKLINE |
| | NATURAL LEVEE DEPOSITS |
| | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

Map, edited, and published by the Geological Survey

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Revised by 1900 and 1901

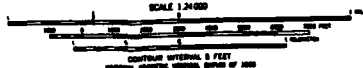
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Revised by 1900 and 1901

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1000 CLASSIFICATION
Hypsography ————
Topography ————
10 & 20
10 & 20

PLATE 25
ALTHEIMER, ARK.
62415-62416/7 & 8

1900

POSTED 1901

AND 1901 IN 1901

1901

1901

1901

1901

1901

1901

1901

1901

1901

1901

1901

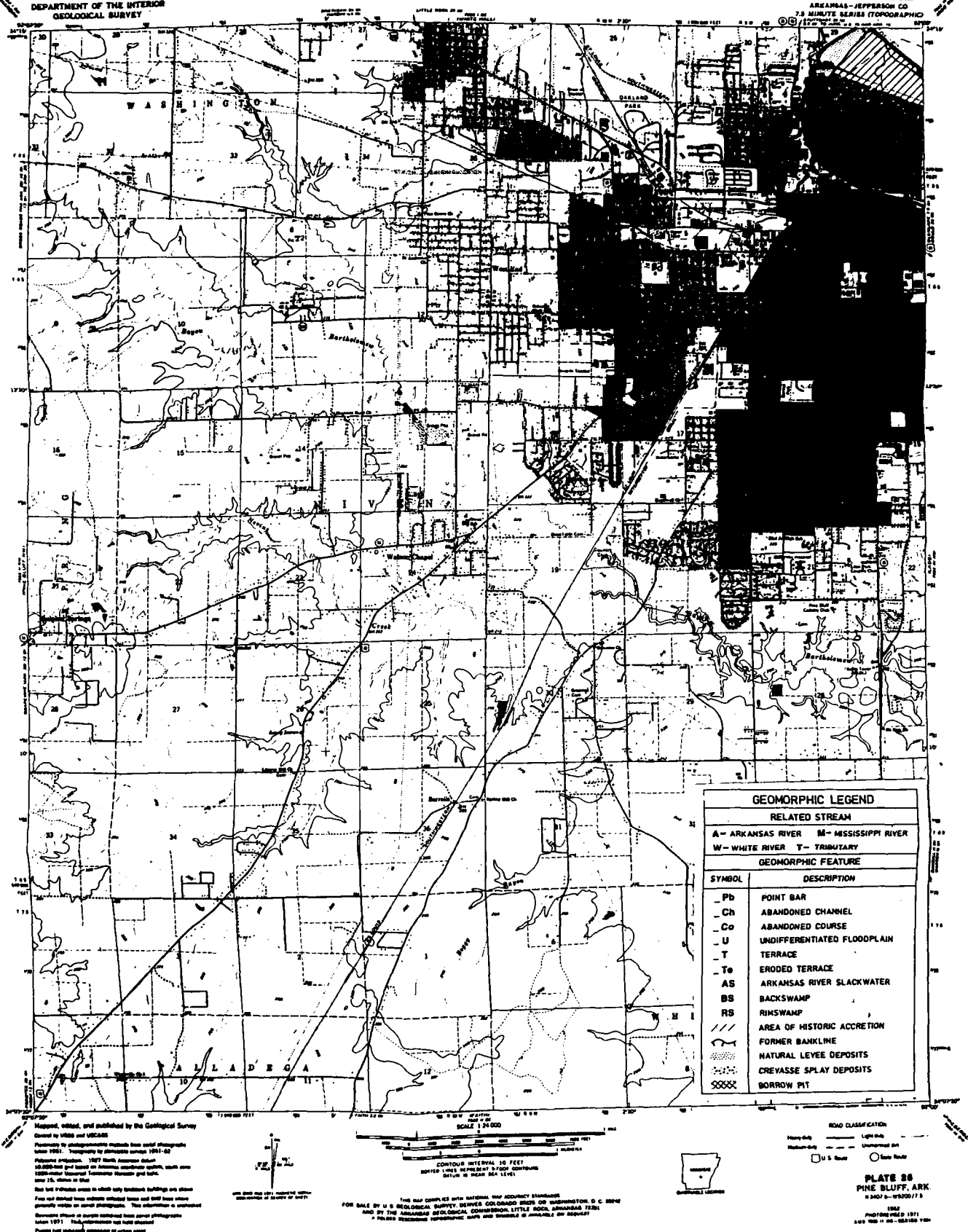
1901

1901

1901

1901

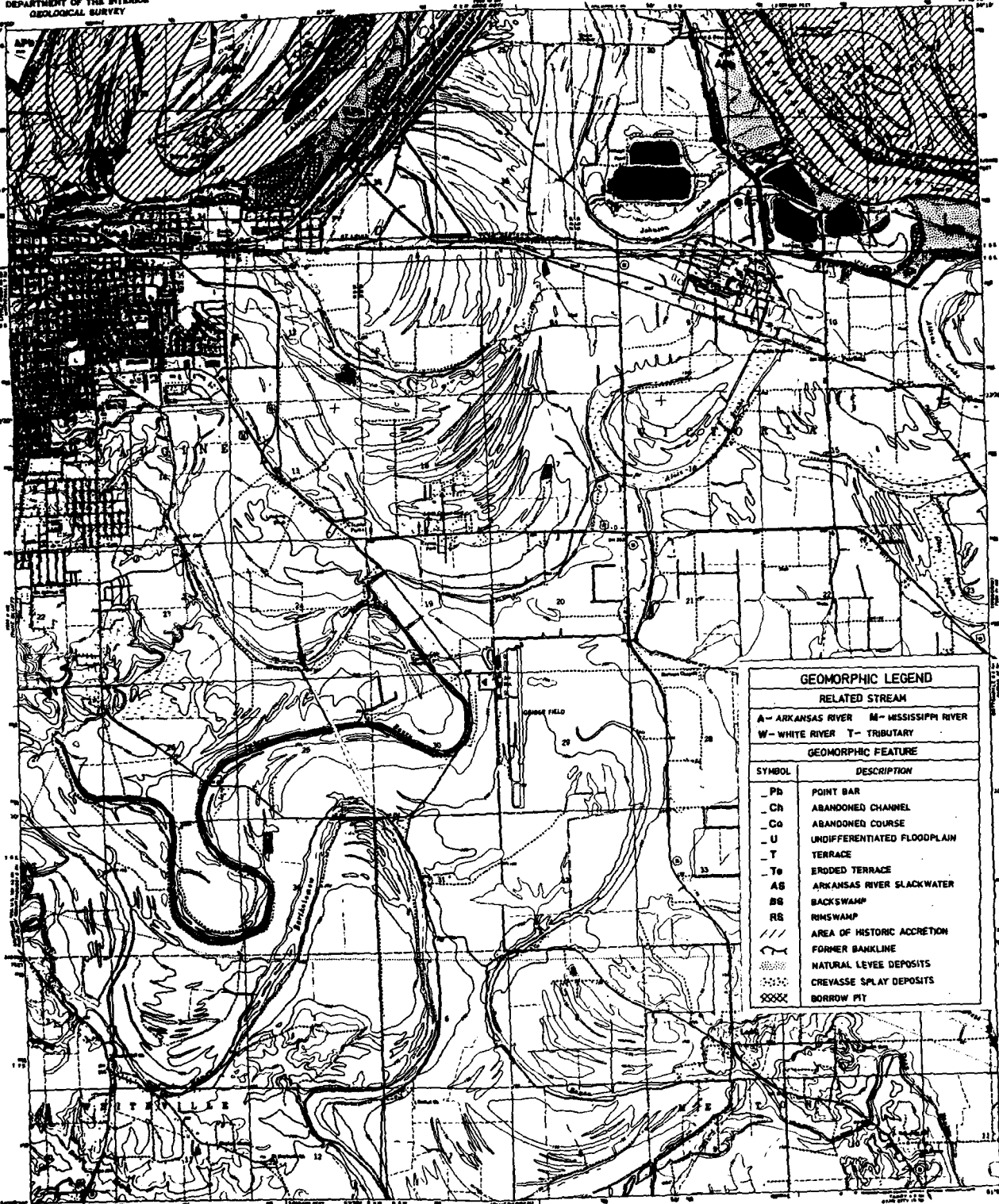
1901



Prepared, edited, and published by the Geological Survey
Directed by USGS and USGS
Technology by photogrammetric methods from aerial photographs
from 1961. Technology by photogrammetric methods from 1961-62
Photographic processing. 1967 North American edition
1:50,000-scale topographic map of the Hawaiian Islands, with some
of the islands and reefs shown in detail. The map is a composite
of 16 sheets, each 1:50,000 scale.

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DEPT. OF COMMERCE, WASHINGTON, D. C. 20540
AND BY THE ARIZONA GEOLOGICAL COMMISSION, LITTLE ROCK, ARIZONA 85301

PLATE 26
PINE BLUFF, ARK.
3407 8-W9200/7.5
1962
PHOTOGRAPHED 1971
AND 1982 BY DR. GERALD T. YEN



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| PB | POINT BAR |
| CH | ABANDONED CHANNEL |
| CO | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| HA | AREA OF HISTORIC ACCRETION |
| FB | FORMER BANKLINE |
| ND | NATURAL LEVEE DEPOSITS |
| CS | CREVASSE SPILL DEPOSITS |
| BP | BORROW PIT |

Map, aerial, and published by the Geological Survey
Surveyed by aerial, ground, and historical methods
Surveyed by aerial methods from 1935 to 1945
Published 1945. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979. 1980. 1981. 1982. 1983. 1984. 1985. 1986. 1987. 1988. 1989. 1990. 1991. 1992. 1993. 1994. 1995. 1996. 1997. 1998. 1999. 2000. 2001. 2002. 2003. 2004. 2005. 2006. 2007. 2008. 2009. 2010. 2011. 2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025.

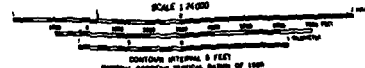
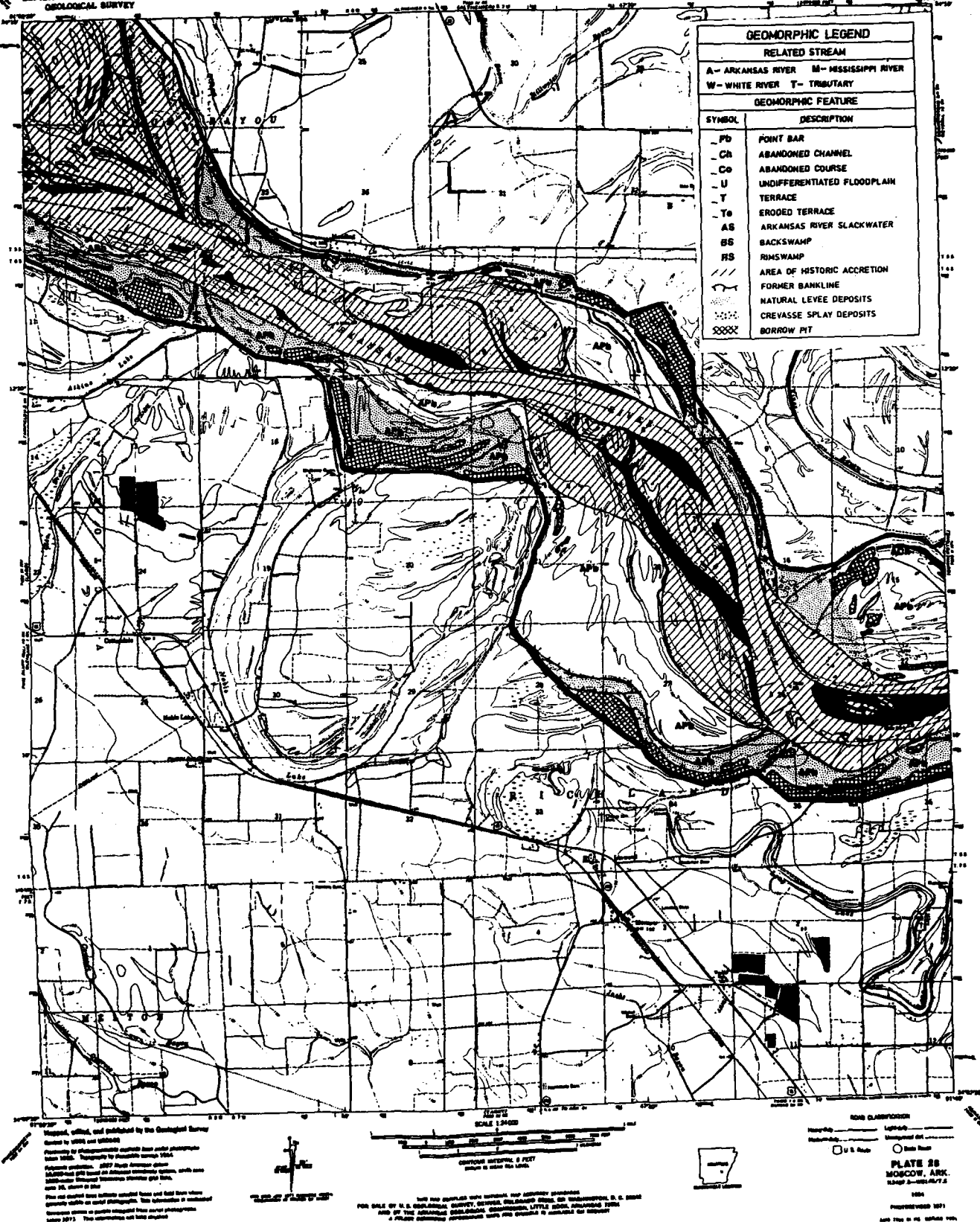
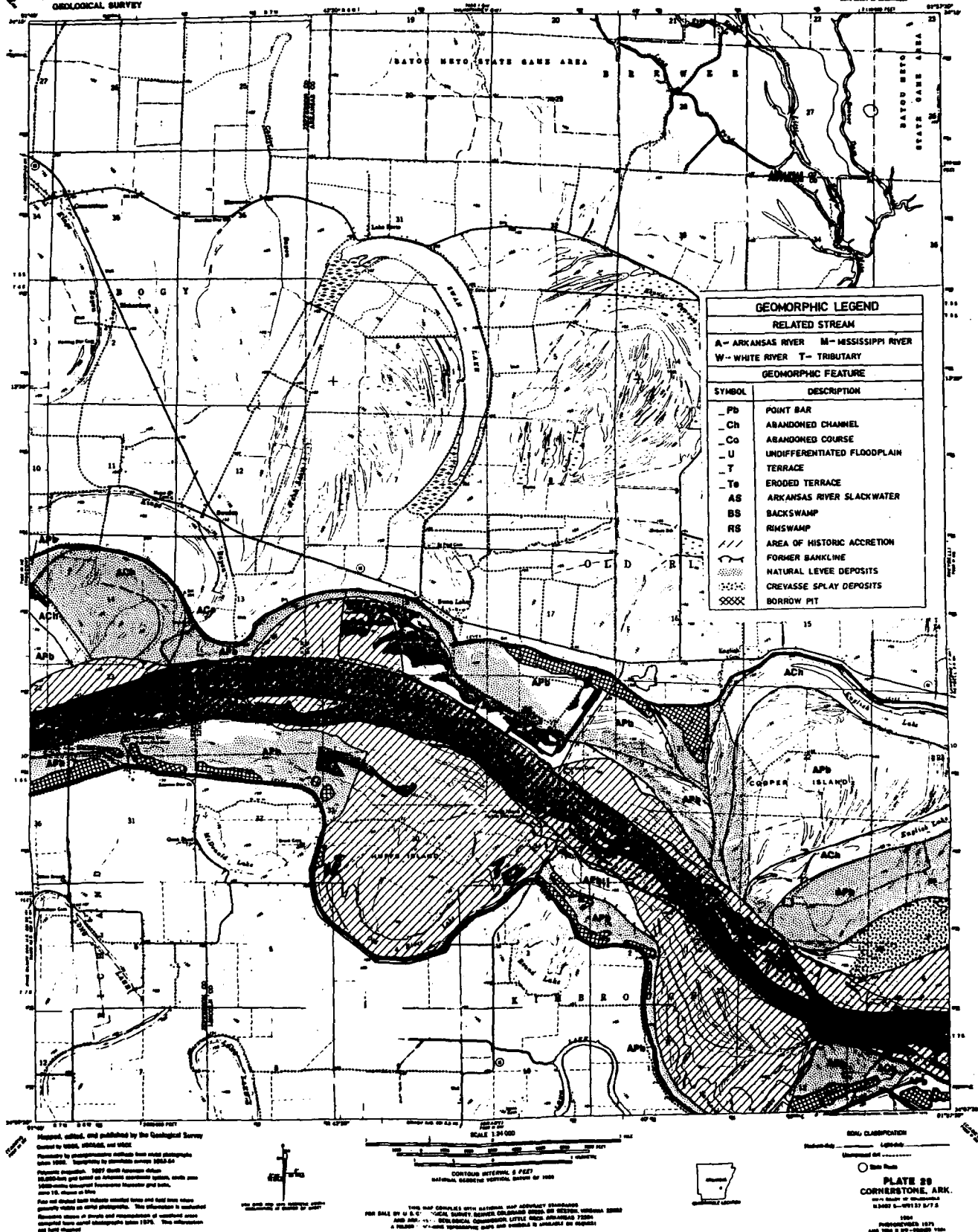
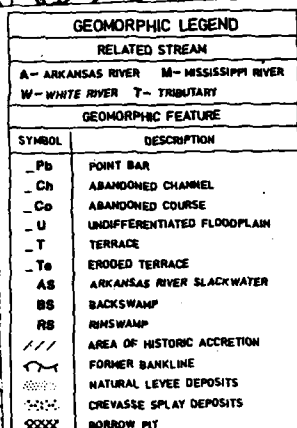


PLATE 27
LADD, ARK.
15 MINUTE SERIES
1945. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979. 1980. 1981. 1982. 1983. 1984. 1985. 1986. 1987. 1988. 1989. 1990. 1991. 1992. 1993. 1994. 1995. 1996. 1997. 1998. 1999. 2000. 2001. 2002. 2003. 2004. 2005. 2006. 2007. 2008. 2009. 2010. 2011. 2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025.

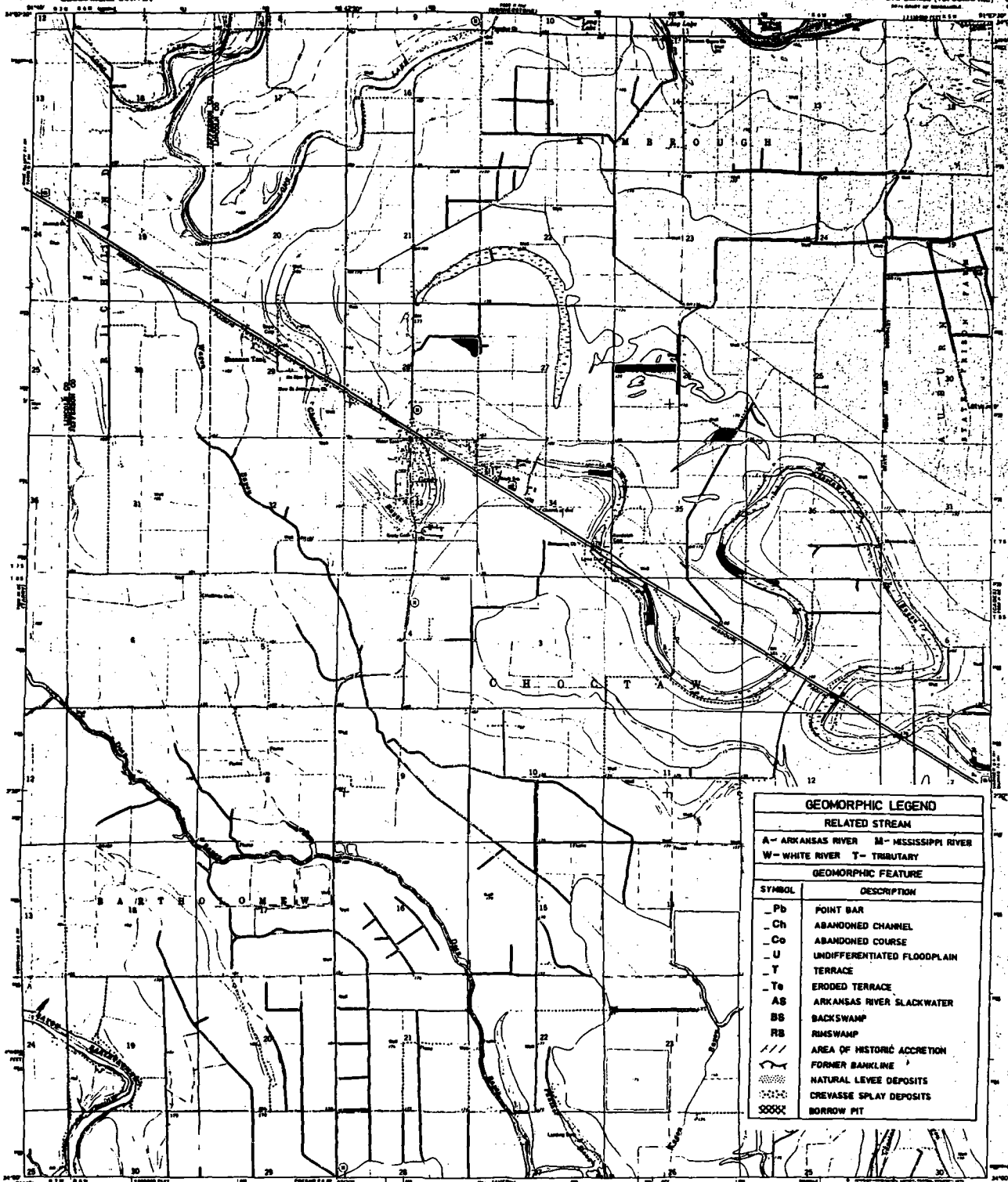






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FOR SALE BY U. S. GEOLOGICAL SURVEY, BENTLEY BL. COLORADO ST. WASHINGTON 25, D. C.
AND BY THE MISSISSIPPI GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS

PLATE 26
RYDELL, ARK.
NEW VOLUME OF CONTINUATION
11207 5-190120/7 6
1900



| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - | ARKANSAS RIVER |
| M - | MISSISSIPPI RIVER |
| W - | WHITE RIVER |
| T - | TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RB | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| - - - | FORMER BANKLINE |
| ~~~~~ | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXX | BORROW PIT |

Revised, edited, and published by the Geological Survey
 under the authority of the Director.
 Published by the Geological Survey, Washington, D.C., 1955.
 This map is based on the original survey data and the
 information obtained from the original survey data.
 The map is based on the original survey data and the
 information obtained from the original survey data.

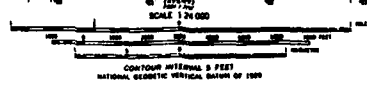
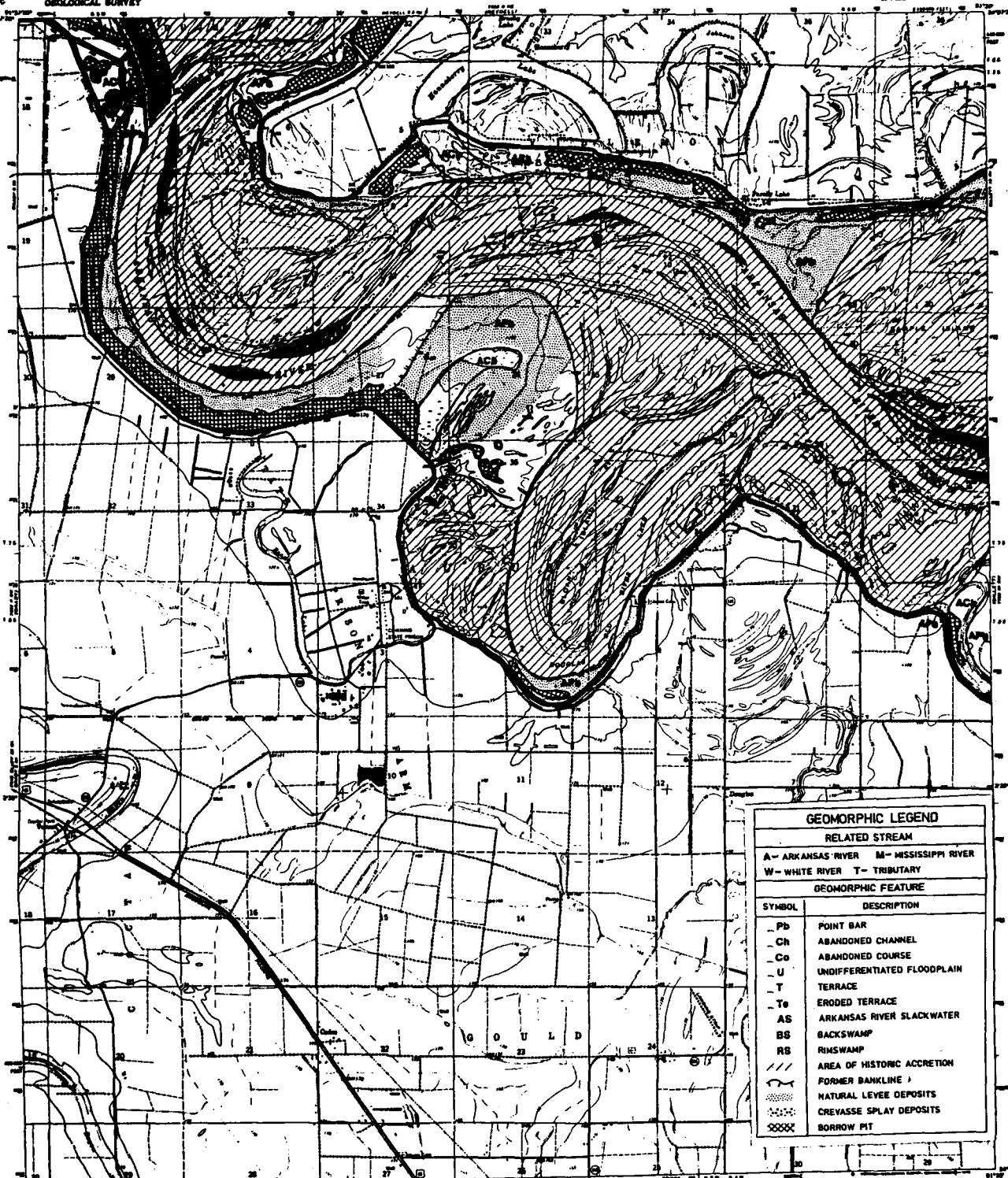


PLATE 31
GRADY, ARK.
1:250,000
1955

THIS MAP COMPLETES THE NATIONAL MAP ACQUISITION PROGRAM
 FOR SALE BY U.S. GEOLOGICAL SURVEY BENCH MARK COORDINATE SHEET, ON REPLY, WASHINGTON, D.C.
 AND ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS, 72201
 A FURTHER REPLYING TO ORDER MAPS AND 1:250,000'S IS AVAILABLE ON REQUEST

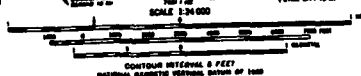


| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIBSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| - - - | FORMER BANKLINE |
| ~~~~~ | NATURAL LEVEE DEPOSITS |
| ~~~~~ | CREVASSE SPILL DEPOSITS |
| XXXXX | BORROW PIT |

Revised, edited, and published by the Geological Survey
under authority of the Secretary of the Interior

Revised by photographic methods from aerial photographs
taken 1952. Topography by elevation survey 1953-54.

Horizontal datum: 1929. Elevation datum: 1929. Contour interval: 10 feet. Spot heights: 5 feet. Base map: 1:50,000. Scale: 1:50,000. Projection: UTM. Zone: 18N. Datum: NAD 83. Units: Feet. Contour interval: 10 feet. Spot heights: 5 feet. Base map: 1:50,000. Scale: 1:50,000. Projection: UTM. Zone: 18N. Datum: NAD 83. Units: Feet.



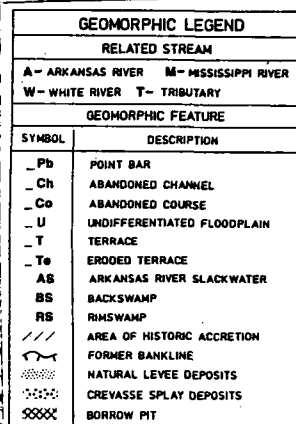
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WASHINGTON, D.C. 20508. PRICE \$1.50 PER COPY. POSTAGE
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A FOLDER CONTAINING THIS MAP AND OTHERS IS AVAILABLE ON REQUEST.



ROAD CLASSIFICATION

Highway - Legend
Main-trunk - Unimproved dirt
U & R - State Road
O - State Road

PLATE 32
CADES, ARK.
U.S. GEOLOGICAL SURVEY
1:50,000 - 1951 1077 A
1954
PHOTOGRAPHED BY
JULY 1952 & 1953 - 1954

[illegible]

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FOR SALE BY U. S. GEOLOGICAL SURVEY, COVER COLORADO STATE OF WASHINGTON & C. 20047
AND BY THE NATIONAL GEOLOGICAL SURVEY, LITTLE ROCK, ARKANSAS 72201
A POLAR PROJECTION MAP OF THE STATE OF ARIZONA IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Primary highway, hard surface _____ Light-duty road, hard or improved surface _____

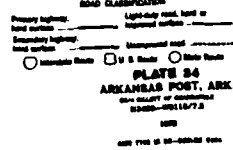
Secondary highway, hard surface _____ Unimproved road _____

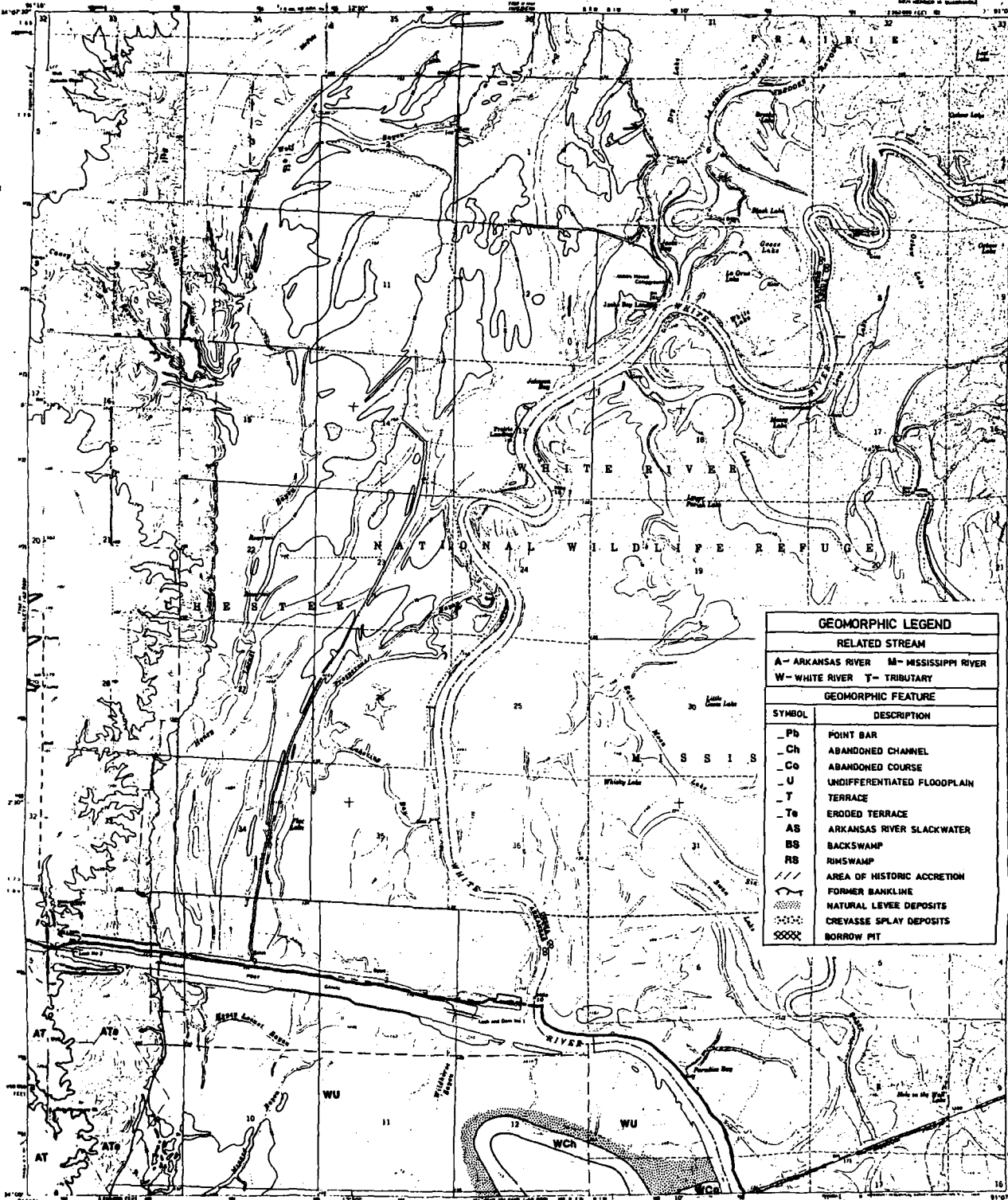
☐ Interstate Road ☐ U. S. Road ☐ State Road

PLATE 88
OLLETT, ARK.
NO. 1 QUALITY OF CONCRETE
64082-1984 IN 5/7.2

1970

AND THIS IS AN UNCLASSIFIED





| GEOMORPHIC LEGEND | |
|----------------------------|-----------------------------|
| RELATED STREAM | |
| A- ARKANSAS RIVER | M- MISSISSIPPI RIVER |
| W- WHITE RIVER | T- TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| Area of historic accretion | AREA OF HISTORIC ACCRETION |
| Former bankline | FORMER BANKLINE |
| Natural levee deposits | NATURAL LEVEE DEPOSITS |
| Crevasse splay deposits | CREVASSE SPYLA DEPOSITS |
| Borrow pit | BORROW PIT |

Map made and published by the Geological Survey
Control by USGS and USGS

Topography by photogrammetric methods from aerial
photographs taken 1954 and stereoscopic images 1957
Projection: 1927 North American Datum
10,000-foot grid based on Arkansas State Plane System, North Zone
1000-foot interval between contours and index
Zone 15, about 15 miles

Area shown by dotted light-gray outline
not subject to resurvey
For use and control laws relating to water and flood areas, which
generally apply to sand deposits. This information is not

SCALE 1:24,000
CONTOUR INTERVAL 5 FEET
DATA IS FROM A 1:50,000 SCALE
DATE 1954

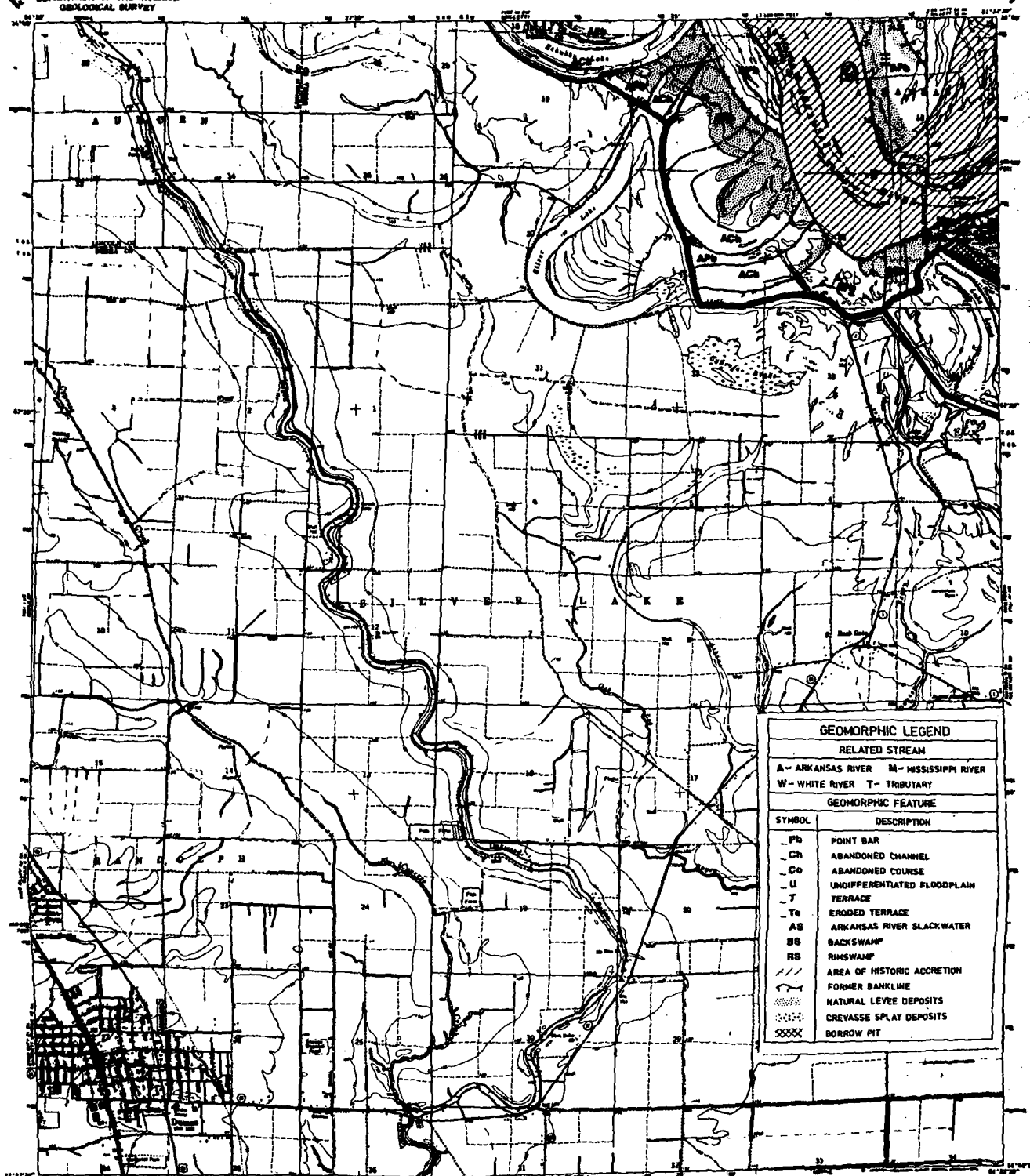
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AND BY THE ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS 72201
A FOLDER DESCRIBING SPREADING MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



ROAD CLASSIFICATION
Main Road Light Road
Unimproved Road

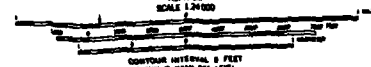
PLATE 35
HENRICO SW, ARK.
1:24,000 - 1954/57
152

U.S. GEOLOGICAL SURVEY



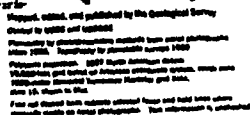
| GEOMORPHIC LEGEND | |
|--------------------|-----------------------------|
| RELATED STREAM | |
| A - ARKANSAS RIVER | M - MISSISSIPPI RIVER |
| W - WHITE RIVER | T - TRIBUTARY |
| GEOMORPHIC FEATURE | |
| SYMBOL | DESCRIPTION |
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| Te | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIMSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| — | FORMER BANKLINE |
| — | NATURAL LEVEE DEPOSITS |
| — | CREVASSE SPILT DEPOSITS |
| XXXX | BORROW PIT |

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 AND ARKANSAS GEOLOGICAL SURVEY, LITTLE ROCK, ARKANSAS. THIS
 1:50,000 SCALE MAP WAS DERIVED FROM THE 1:250,000 SCALE MAP OF 1938.

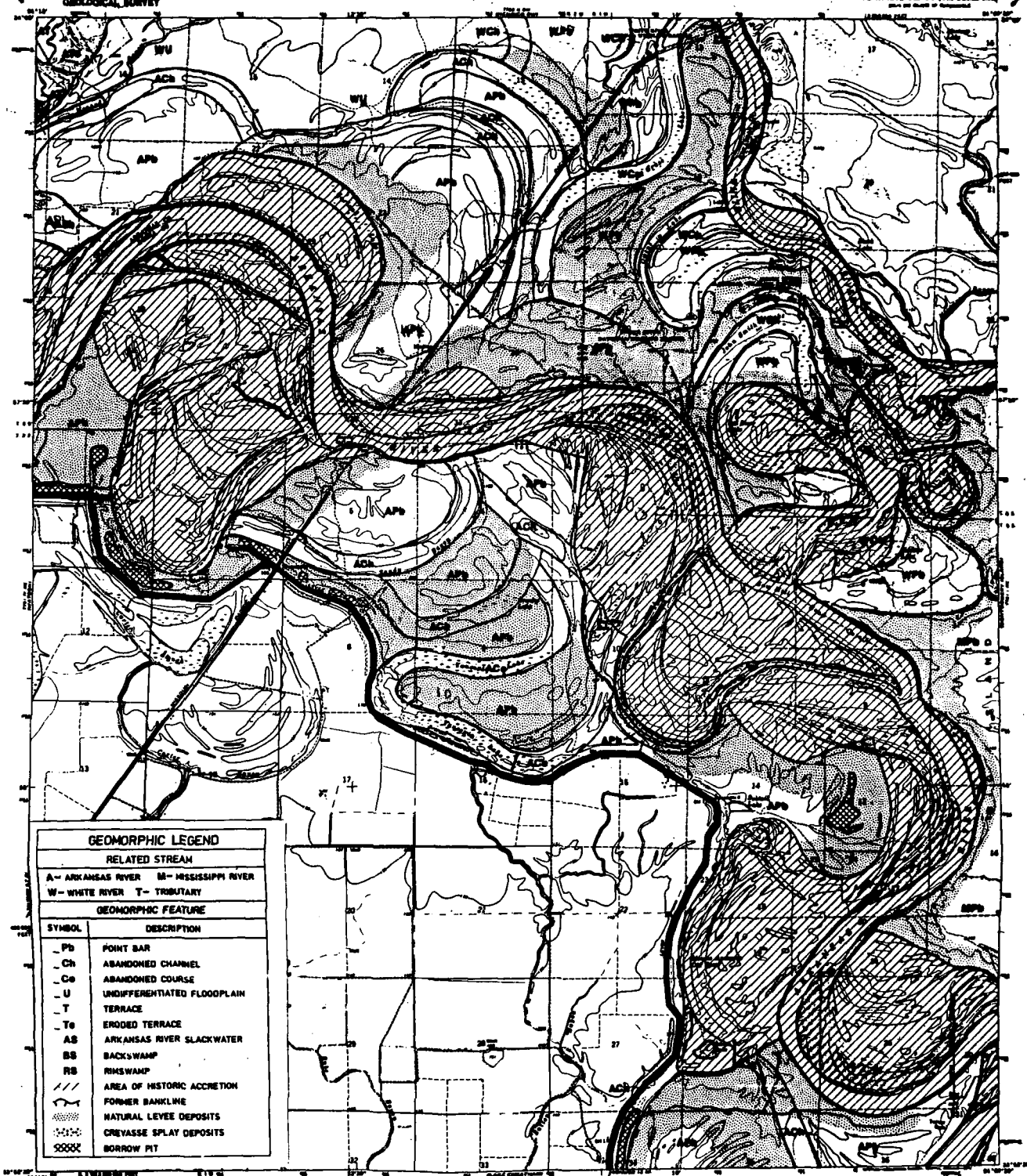
ROAD CLASSIFICATION
 Primary highway, 40 miles. Lightly used, all weather.
 Road number. Secondary highway, all weather. Unimproved road, for 40
 Road number. Road number. Road number.
 PLATE 98
 DUMAS, ARK.
 15 MINUTE SERIES (TOPOGRAPHIC)



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[illegible]

**PLATE BY
WATSON, ARK.**
FILED IN CHICAGO
MAR 2-1978



GEOMORPHIC LEGEND

RELATED STREAM

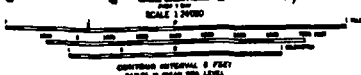
A - ARKANSAS RIVER M - MISSISSIPPI RIVER
W - WHITE RIVER T - TRIBUTARY

GEOMORPHIC FEATURE

| SYMBOL | DESCRIPTION |
|--------|-----------------------------|
| Pb | POINT BAR |
| Ch | ABANDONED CHANNEL |
| Co | ABANDONED COURSE |
| U | UNDIFFERENTIATED FLOODPLAIN |
| T | TERRACE |
| To | ERODED TERRACE |
| AS | ARKANSAS RIVER SLACKWATER |
| BS | BACKSWAMP |
| RS | RIBSWAMP |
| /// | AREA OF HISTORIC ACCRETION |
| ~~~~~ | FORMER BANKLINE |
| | NATURAL LEVEE DEPOSITS |
| XXXXX | CREVASSE SPILL DEPOSITS |
| XXXXX | BORROW PIT |

SYMBOLS

Revised, edited, and published by the Geological Survey
Survey by Walter and Elizabeth
Topography by photogrammetry methods from aerial
photographs taken 1971. Field checked 1972
Photometric and altimetric grid values derived from
vertical, bench, and barometric levelling and
intermediate levelling. Horizontal grid values
from 1:62,500 scale. 1957 North American Datum.
For map details see published maps and field notes which
generally include on each photograph. This information is contained



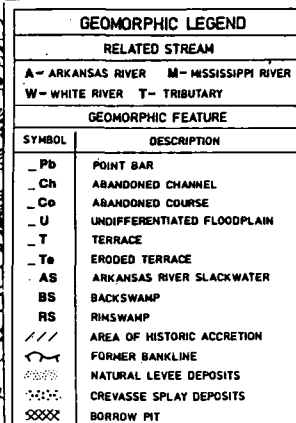
CONTINENTAL DIVISION, U.S. GEOLOGICAL SURVEY
WASHINGTON, D.C. 20540



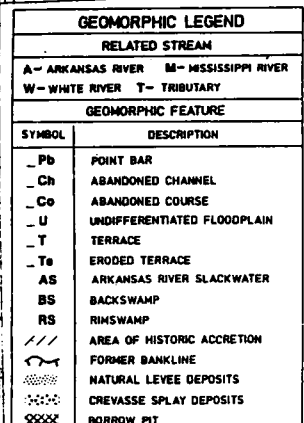
ROAD CLASSIFICATION
Primary highway
Secondary highway
Tertiary highway
Unimproved road
U.S. Route
State Route

PLATE 88
YANCOPIN, ARK.
7.5 MINUTE SERIES
SCALE 1:62,500
1972

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A PUBLICATION OF THE GEOLOGICAL SURVEY, WASHINGTON, D.C. 20540



Primary highway. _____ Light-duty road, hard or
hard surface. _____ improved surface. _____
Secondary highway. _____ Unimproved road. _____
hard surface. _____
☐ Intermediate Grade ☐ M. S. Grade ☐ State Grade
PLATE 30
MONTEGOMERY ISLAND, ARK.—MIS
NO. 100 CLASS OF MONTEGOMERY
03062-0000/73
MIS
ADD 791 | 50 UPPER 750



ROAD CLASSIFICATION

Primary highway
hard surface _____ Light-duty road hard or
improved surface _____
Secondary highway
hard surface _____ Unimproved road _____

☐ Interchange Route ☐ U S Route ☐ State Route

PLATE 66
LAKE CHEATNAM, ARK.—MISS
MS—IN QUANTITY OF ONE THOUSAND
B-2048—B-2049 A7.5

1977

ADD FIVE 1 IN.—MINIMUM TYPE

